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EPA Region 5 Records Ctr.



235048

The Lockformer Company

Additional Assessment of TCE Release

**Lockformer Facility
Lisle, Illinois**

**STS Consultants Ltd.
Consulting Engineers**



February 14, 1997

Mr. James Heitt
The Lockformer Company
711 Ogden Avenue
Lisle, IL 60532

RE: Additional Assessment of TCE Release, Lockformer Facility, Lisle, Illinois - STS
Project No. 26249-XB

Dear Mr. Heitt:

STS has completed the additional tasks regarding the TCE release described in our proposal No. 5470-P, dated November 5, 1996. The tasks included on-site well development, groundwater sampling and analysis and the attached summary report of the current information regarding the site conditions. A sampling and testing program was authorized separately to assess the adjacent west lot.

Our recommendations for further determination of the site conditions are included in the attached report. If you have any questions or concerns regarding this information, please do not hesitate to contact us.

Respectfully,

STS CONSULTANTS, LTD.

Cynthia Bonczkiewicz
Cynthia Bonczkiewicz
Project Engineer

Richard G. Berggreen
Richard G. Berggreen
Principal Geologist

Attachment

cc: Daniel Biederman, Hinshaw & Culbertson

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STS Consultants Ltd.
Consulting Engineers

1415 Lake Cook Road
Deerfield, Illinois 60015
847.267.8010 Fax 847.267.8040

ADDITIONAL ASSESSMENT OF
TCE RELEASE
LOCKFORMER FACILITY
LISLE, ILLINOIS

The Lockformer Company
711 Ogden Avenue
Lisle, Illinois 60532

26249-XB

February 14, 1997

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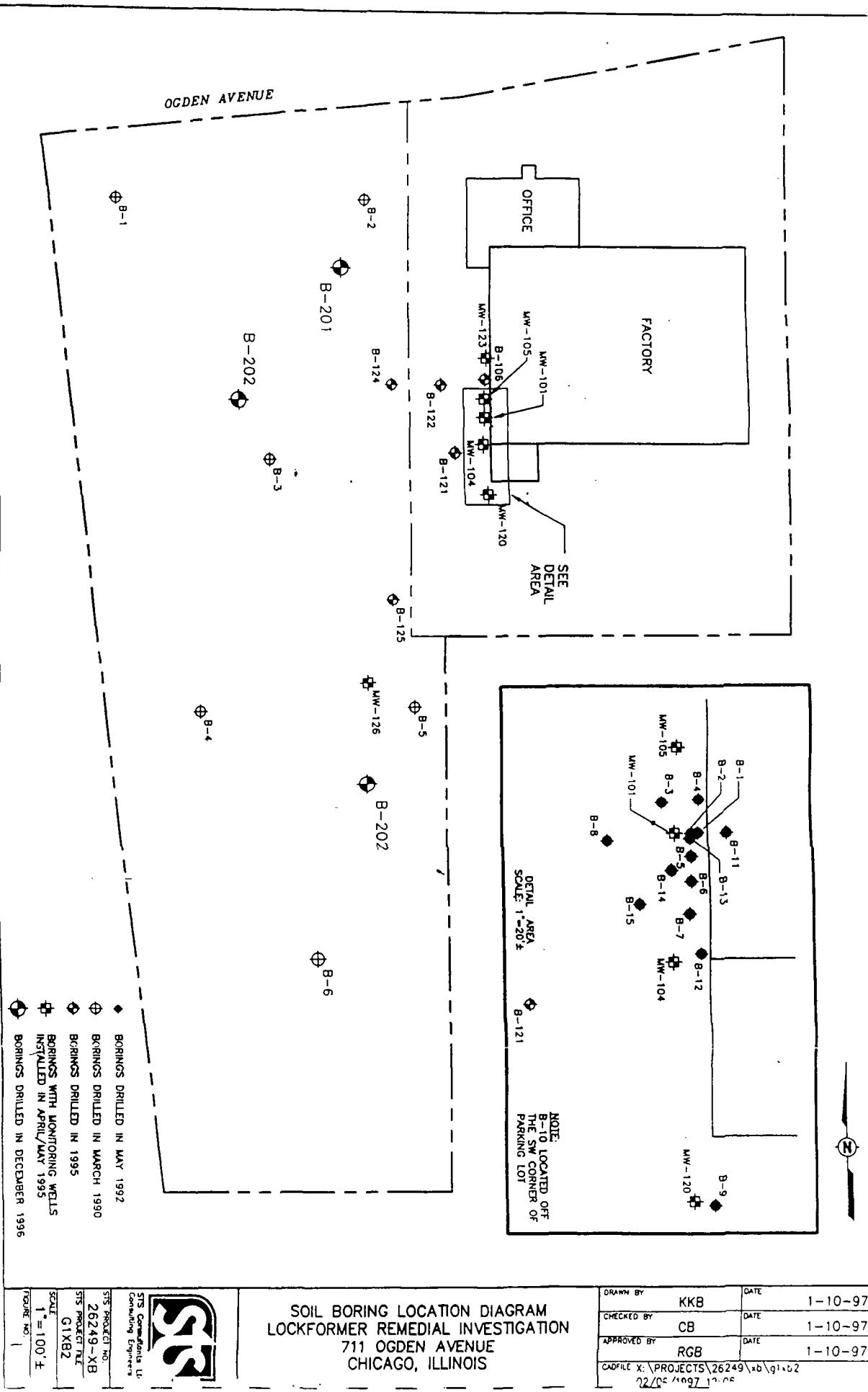
ADDITIONAL ASSESSMENT OF TCE RELEASE
LOCKFORMER FACILITY
LISLE, ILLINOIS

1.0 BACKGROUND

STS Consultants, Ltd. (STS) has conducted several exploration/analysis programs at the Lockformer facility since 1990. The purpose of this report is to present information from the most recent investigation, to summarize the previous data, and recommend any future investigations with the objective of developing a strategy for obtaining clean closure of a TCE (Trichloroethylene) release identified at the site. Figure 1 shows the borings and monitoring wells performed to date.

During a geotechnical investigation in 1990, no indications of significant contamination were noted in shallow borings (B-1 through B-6) on the adjacent west parcel. In 1992, borings (B-1 through B-15) at the west side of the facility indicated contamination near the TCE fill pipe and beneath the western edge of the main building. Based on this information, borings B-121, B-122, B-124, B-125 were performed, and groundwater monitoring wells (MW-101, MW-104, MW-105, MW-120, MW-125) were installed in 1995.

STS sampled the monitoring wells in November 1996. This report includes a summary of the previous findings and the results of the recent groundwater analysis. Further exploration was conducted on the adjacent west lot in December 1996 for soil characterization parameters. In conjunction with this recent exploration, six samples were analyzed for solvents, including TCE. The recent results (received January 1997), are included in this summary report.



2.0 SUMMARY OF FINDINGS

Soil Conditions

Soil boring logs from the 1990, 1995, and 1996 explorations are attached as Appendix A. The soils generally consist of 3 to 8 feet of silty clay fill and/or topsoil, underlain by silty clay soils to 18 to 32 feet below ground surface. The geotechnical report from 1990 describes the fill on the adjacent west lot. Seams and pockets of silt and sand were prevalent in the natural silty clay strata. STS understands that the fill on the adjacent west lot was imported from the grading done for Ogden Avenue improvements prior to 1990. Beneath the silty clay is a thick sequence of gravelly sand which generally extends to the top of bedrock, although some silt and clay may be present at the top of rock.

Bedrock was encountered approximately 40 feet below ground surface as indicated in water well logs for the residential development northwest of the Lockformer facility. On site and on the adjacent lot to the west, bedrock was encountered at a deeper depth, approximately 80 feet. Bedrock in the site vicinity consists of the Silurian age Niagaram dolomite and represents a regional water supply aquifer.

The analytical results from testing of selected soil samples are summarized in Table 1. The results indicated shallow TCE contamination in borings B-13, B-14, and B-15 near the fill pipe on the west side of the Lockformer main building and deep (below 30 foot depth) TCE contamination south and west of the building. At one of the boring locations on the west lot (boring MW-125), mid-depth TCE contamination was noted from 15 to 27 feet below ground surface. Contamination is defined as soils with over the IEPA threshold of 60 ppb TCE (IEPA cleanup objective guidelines for the migration to groundwater). Other solvent parameters were noted in some of the soil samples analyzed, however the concentrations of these

Table 1
Results of Soil Sample Analysis
1990 to 1996

Boring No.	Depth (ft)	Soil Type	Concentration in ppb				
			1,1 DCE	cis DCE	trans DCE	TCE	PCE
B-1	0 - 4.5	CL Fill	ND	ND	ND	ND	ND
B-2	0 - 2.5	CL Fill	ND	ND	ND	ND	ND
B-3	0 - 12.5	CL Fill	ND	ND	ND	ND	ND
B-4	0 - 17	CL Fill	ND	ND	ND	ND	ND
B-5	0 - 12	CL Fill	ND	ND	ND	ND	ND
B-6	0 - 13	CL Fill	ND	ND	ND	ND	ND
B-13	1 - 2	CL Fill	27	-	-	680,000	20,000
	2 - 3	CL Fill	5	-	-	310,000	9,000
	3 - 4	CL Fill	ND	-	-	110,000	2,500
B-14	1 - 2	CL Fill	ND	-	-	120,000	1,700
B-15	3 - 4	CL Fill	ND	-	-	21,000	880
MW-120	4 - 4.5	CL Fill	ND	ND	ND	11.1	ND
	7.5 - 9.5	CL	ND	12.2	0.3	24.1	ND
	20 - 22	SP	3	ND	ND	ND	ND
	35 - 37	SP	ND	ND	ND	>301	ND
	40 - 42	SP	ND	ND	ND	3.5	ND
	45 - 47	SP	1.1	ND	ND	ND	ND
	55.5 - 57.7T	SP	ND	ND	ND	2.3	ND
	55.5 - 57.5B	SP	5.8	ND	ND	ND	ND
	47 - 49 Lab	SP	ND	ND	ND	ND	ND
MW-121	17.5 - 19.5	-	ND	ND	ND	2.4	ND
	45 - 47	-	1.6	ND	ND	25	ND
	50 - 52	-	1.9	ND	ND	2.2	ND
	55 - 57	-	2	ND	ND	2.4	ND
MW-122	2.5 - 4.5	CL	12	2.9	ND	ND	ND
	10 - 12T	CL	1.7	91	ND	4	ND
	10 - 12B	CL	1.3	8.8	1.2	2.4	ND
	15 - 17	CL	2.2	ND	ND	1.9	1
	20 - 22	CL	2	ND	ND	1.8	ND
	25 - 27	CL	1.3	ND	ND	ND	ND
	30 - 32	CL	1	ND	ND	4,000	5.2
	32.5 - 34.5	SP	1	ND	ND	6,500	10
	30-32 Lab	CL	ND	ND	ND	ND	ND
	32.5 - 34.5 Lab	SP	ND	ND	ND	910	ND

Table 1 (Cont.)
Results of Soil Sample Analysis
1990 to 1996

Boring No.	Depth (ft)	Soil Type	Concentration in ppb				
			1,1 DCE	cis DCE	trans DCE	TCE	PCE
MW-123	5.0 - 7.0	CL	16	20	ND	ND	ND
	7.5 - 9.5	CL	1.8	ND	ND	ND	ND
	15 - 17	CL	1.9	ND	ND	ND	ND
MW-124	5.0 - 7.0	CL	1.4	ND	ND	1.9	ND
	7.5 - 9.5	CL	ND	6.1	ND	10	ND
	10.0 - 12.0	CL	ND	ND	ND	14	ND
	12.5 - 14.5	CL	ND	ND	ND	1.5	ND
MW-125	10.0 - 12.0	CL	ND	8.4	ND	110	ND
	15 - 17	SP	1.7	3.7	ND	52	ND
	17.5 - 19.5	SP	2.8	6.5	ND	100	1.2
	20 - 22	SP	1.6	4.8	ND	59	ND
	25 - 27	SP	2.5	7.6	ND	58	1
MW-126	12.5 - 14.5	CL	1.6	ND	ND	ND	ND
	17.5 - 19.5	CL	ND	ND	ND	28	ND
	20 - 22	SP	ND	ND	ND	11	ND
	25 - 27	SP	ND	ND	ND	13	ND
	35 - 37	SP	ND	ND	ND	5.8	ND
	50 - 52	SP	1	ND	ND	5.8	1.1
	65 - 67	SP	ND	ND	ND	ND	ND
	70 - 72	SP	ND	ND	ND	ND	1.4
	75 - 77	SP	ND	ND	ND	ND	1.7
	75 - 77 Lab	SP	ND	ND	ND	ND	ND
B-201	2.5 - 4.5	Fill	ND	ND	ND	ND	ND
	- 10 - 12	CL	ND	ND	ND	ND	ND
B-202	15 - 17	CL	ND	ND	ND	ND	ND
	37 - 39	SP	ND	ND	ND	ND	ND
B-203	10 - 12	CL	ND	ND	ND	ND	ND
	25 - 27	SP	ND	ND	ND	ND	ND

TACO Tier 1 Cleanup Objectives, Migration to Groundwater (Industrial and Residential)

			1,1 DCE	cis DCE	trans DCE	TCE	PCE
			60 ppb	400 ppb	700 ppb	60 ppb	60 ppb

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parameters (1,1 DCE, cis DCE, trans DCE, PCE) were found to be below IEPA Tier 1 clean up objectives for the migration to groundwater criteria for soils. Individual laboratory results are of soil analyses are shown on Figure 2. The zone which exhibited soil TCE contamination above IEPA Tier 1 concentration levels are shown in bold on Figure 2.

Groundwater Conditions

Groundwater was encountered in the soil borings at varying depths, indicating a shallow, 12 to 15 feet deep, perched water table (B-2, B-5, B-6) and a deeper long term water table. The deeper groundwater was noted from 30 to more than 50 feet below ground surface at the time of the borings. In addition to the borings on-site, groundwater monitoring wells were installed during the 1995 exploration program. The installation details are included on well logs presented in Appendix B.

Wells MW-101 and MW-123 are situated to collect shallow groundwater from the silty clay strata. Wells MW-104 and MW-105 are screened in the deeper sand and gravelly sand layers; however, no groundwater was present in these wells at the time the wells were sampled. Wells MW-120 and MW-126 are screened in the silt and limestone gravel strata below the sand layers, but above the top of bedrock. The wells were developed, monitored and sampled in November 1996. At that time, the shallow groundwater was approximately 12 feet below the surface and the deeper groundwater table was 30 to 52 feet below ground surface.

The analytical results from the 1996 testing of groundwater samples are summarized in Table 2 and included in Appendix C. Allowable levels of selected parameters, as defined by the IEPA are also included in Table 2. The results indicate that elevated concentrations of several solvents were found in the shallow (20 feet) and deep (50 feet) groundwater, west and south of the Lockformer building. In two wells on the Lockformer property (MW-120 and MW-

Table 2
Lockformer Monitoring Well Results
November 1996

	Concentration in ppb				
	MW-123 MW-101	MW-120	MW-101 MW-123	MW-126	IEPA Class II Groundwater
Distance from Fill Pipe (Ft. - Dir.)	1.5 ft S	98 ft S	56.5 ft N	325 ft S	--
Depth of Well (Ft.)	22.7	55.8	15	77.7	--
Relative Elevation of Water (11/20/96) ft.	88.1	67.4	88.4	44.7	--
Vinylchloride	-	--	73	-	2
1,1 DCE	-	--	530	-	7
Methylchloride	--	--	63	-	5
Trans 1,2 DCE	--	3.5	490	--	100
1,1 Dichloroethane	--	41	300	-	700
Chloroform	-	--	7	-	0.02
1,1 Trichloroethane	--	--	4,800	-	200
Benzene	-	-	4.6	-	5
Trichloroethylene TCE	2.4	59	68,000	1.3	5
Toluene	-	-	8.1	-	1,000
1,1,2 Trichloroethane	-	-	57	-	
cis 1,2 DCE	2.2	79	38,000	-	70
PCE	-	-	9.5	-	5

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123), the concentrations were above allowable levels for IEPA Class I or Class II groundwater. The groundwater from MW-126 on the adjacent west lot was below the IEPA Class I standard for TCE and related parameters. Groundwater elevations as of November 1996 are also shown on Table 2.

West Lot

On the basis of the data available from this investigation and previous sampling and analyses, STS performed preliminary Tier 2 calculations evaluating the status of the property directly west of the Lockformer west parking lot in relation to IEPA cleanup requirements. Using test results summarized in Table 3, IEPA cleanup parameters were calculated for TCE, the only parameter known to be in exceedance of Tier 1 levels on the west lot. Two alternative methods were used in the Tier 2 calculations. The USEPA SSL equations and the ASTM RBCA equations. Based on the Table 3 parameters, a Tier 2 cleanup requirement of 608 ppb was estimated using the EPA SSL equations. A requirement of 105 ppb was estimated using RBCA equations. Additionally, recent laboratory testing showed no detections of TCE at three locations on the west lot. The results are included in Appendix C.

Since the maximum known soil contamination in the west lot is 110 ppb at 10 to 12 foot depth at boring B-125 location, the estimated Tier 2 levels are not known to be exceeded. If the Table 3 parameters and calculations are accepted by the IEPA, no cleanup would be required on the west lot, provided the B-125 contaminant levels are considered representative.

Table 3
Physical Soil Parameters for
IEPA Tier 2 Calculations

Boring No.	Depth (ft.)	Soil Type	Organic Content (%)	Specific Gravity	Dry Density (lb/ft. ³)	Natural Water Content (%)
B-201	2.5 - 4.5	Fill	0.7	2.72	-	19.2
	10 - 12	CL	2.9	2.63	-	16
B-202	15 - 17	CL	1.6	2.70	114.7	19.5
	37 - 39	SP	4.2	2.77	-	4.3
B-203	1 - 3	Fill	8.3	2.63	109.8	14.4
	15 - 17	CL	5.5	-	97.4	25.7
	25 - 27	SP	2.3	2.78	-	3.9

3/15/03
 A. C. C.

3.0 RECOMMENDATIONS

It is our understanding that Lockformer desires to obtain site closure from the IEPA for the TCE release. Further, we understand that the site has been entered into the state's voluntary cleanup program (Illinois Pre-Notice Site Cleanup Program). Based on the data which has been developed through the previously completed investigations, it is our opinion that the Lockformer facility will require some remediation of soil and groundwater prior to obtaining a No Further Remediation letter for the site. As part of the closure program, we anticipate the IEPA will require a Remedial Action Plan and submittal of proposed clean up objectives for this site in the form of a Remediation Objectives Report. Some delineation of the extent of contamination is recommended prior to submittal of the Site Investigation Report which is also required for approval in the IEPA Site Remediation Program.

In order to further delineate the limits of the contamination, STS recommends the use of passive soil gas probes as a cost effective method to delineate the contamination south and southwest of the identified plume. Approximately 40 probes can be installed, retrieved and analyzed for approximately \$8,000, including a letter report of the results. Soil gas probes are gas absorption canisters which are manually placed near the ground surface without the need drill rig mobilization. A map showing the relative concentrations of the target compounds in the probe area would be prepared based on the results.

Following the delineation of the apparent extent of contamination from the soil gas probe survey, STS suggests additional characterization of groundwater contamination at the site prior to the Site Investigation Report and the Remedial Action Plan completion. Of the six monitoring wells currently on site, two were dry, two collected deep (<50 ft) groundwater south of the building and two collected shallow groundwater adjacent to the Lockformer building. Two or three shallow wells and two additional deep wells are likely to be proposed. Analysis of two or three soil samples from each of these borings/wells would

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serve as calibration data for the soil gas data points. The cost of this exploration and sampling is anticipated to be in the range of \$10,000 for drilling and well installation, and an estimated \$15,000 of analytical costs.

The preliminary estimate of Tier 2 corrective action objectives for the adjacent west lot suggests that a No Further Remediation letter (perhaps with use restrictions) may be available from the IEPA without cleanup. A submittal of a Remediation Objectives Report to the IEPA would be required to request a No Further Remediation letter for the west lot.

The IEPA Site Investigation Report, Remediation Objectives Report and Remedial Action Plan for the Lockformer property could be prepared after completion of the exploration/analysis tasks detailed above. These reports would include a summary of the results, expected remedial action and extent of soil treatment/removal, and proposed Tier 2 clean up objectives, including the appropriate Tier 2 calculations and objective determination forms. Since some of the corrective action parameters have been determined already, the estimated cost for an initial IEPA submittal of the three reports required is \$6,000 to \$10,000. This does not include follow up action required by the IEPA prior to approval, which cannot be estimated at this time. A Remedial Action Completion Report is also not included in this estimate, but would be required for the Lockformer property prior to issuance of a No Further Remediation letter by the IEPA.



STS Consultants Ltd

OWNER

The Lockformer Company
PROJECT NAME

Lockformer

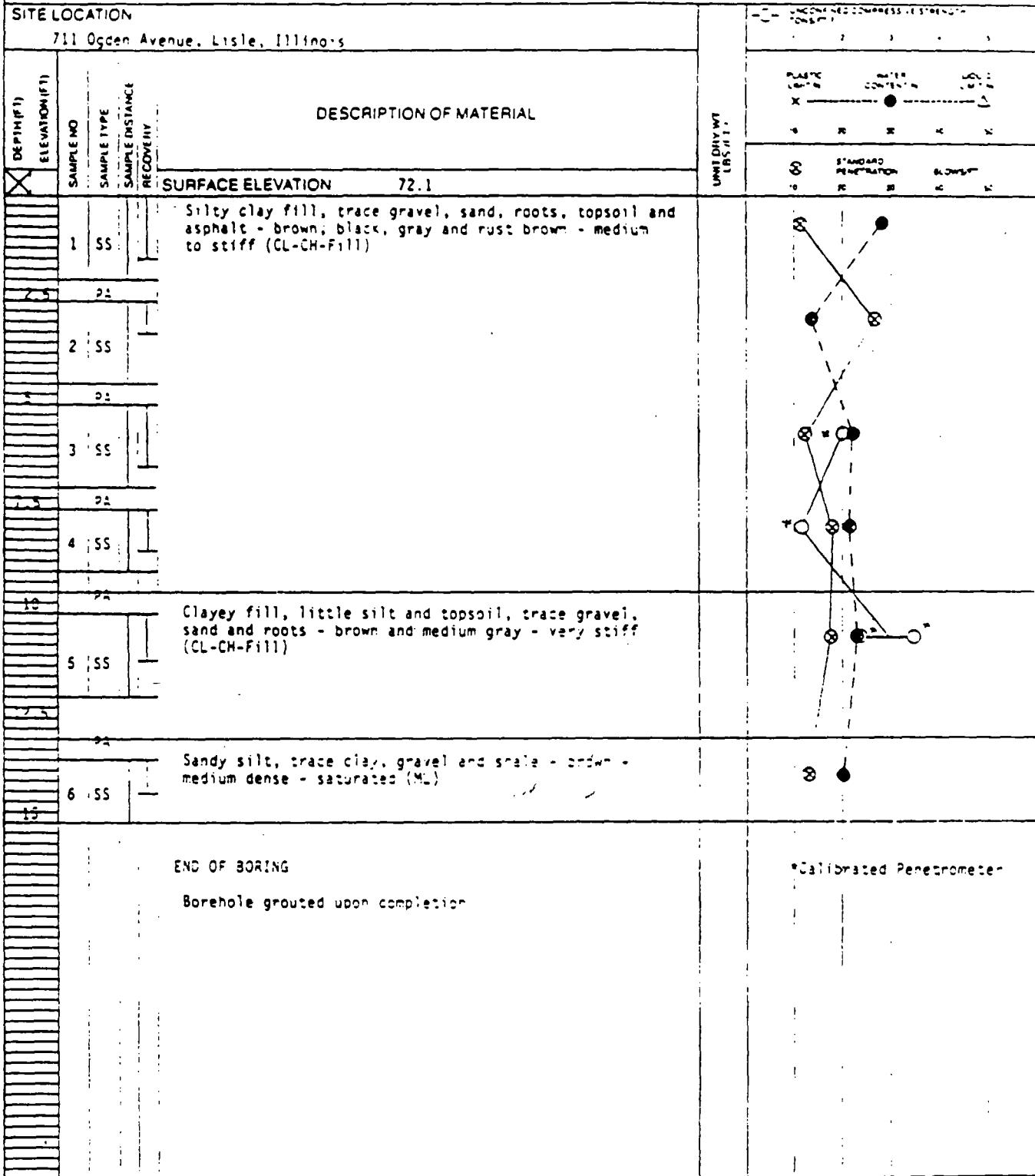
LOG OF BORING NUMBER

B-6

ARCHITECT-ENGINEER

SITE LOCATION

711 Ogden Avenue, Lisle, Illinois



THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES IN-SITU. THE TRANSITION MAY BE GRADUAL

WL	WS	WS OR NO. BORING STARTED	STS OFFICE	
WL	BCR	ACR BORING COMPLETED	DRAWN BY	SHEET NO. OF
WL		3/12/90	MG	1 1
WL				STS JOB NO.

CLIENT The Lockformer Company				JOB OF BORING NUMBER B-101								
PROJECT NAME Lockformer Status Report				ARCHITECT-ENGINEER								
STS Consultants Inc.												
SITE LOCATION 711 Ogden Avenue, Lisle, Illinois				UNCONFINED COMPRESSIVE STRENGTH TONS/F ²								
				10	20	30	40	50				
DEPTH (ft)	ELEVATION (ft)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DISTANCE	RECOVERY	DESCRIPTION OF MATERIAL		TEST DATE	TEST NO.	PLASTIC CONSISTENCY	WATER CONTENT %	GROUT %
						SURFACE ELEVATION	100 ft.					
1	SS	1	1	1	1	Fill Silty clay, little sand, trace gravel, - brown	1	1	1	1	1	1
2	SS	1	1	1	1	Note Partly organic, with topsoil at surface and at 6.5 ft	1	1	1	1	1	1
3	SS	1	1	1	1	Silty clay, trace gravel and sand - broken and gray	1	1	1	1	1	1
4	SS	1	1	1	1	Silty clay, trace gravel and sand - broken and gray	1	1	1	1	1	1
5	SS	1	1	1	1	Silty clay, trace gravel and sand - broken and gray	1	1	1	1	1	1
6	SS	1	1	1	1	Silty clay, trace gravel and sand - broken and gray	1	1	1	1	1	1
7	SS	1	1	1	1	Silty clay, trace gravel and sand - broken and gray	1	1	1	1	1	1
8	SS	1	1	1	1	Silty clay, trace gravel and sand - broken and gray	1	1	1	1	1	1
20.0	IHS	1	1	1	1	Silty clay, - gray	1	1	1	1	1	1
20.5	SS	1	1	1	1	End of Boring Set well MM-10; Safety Hammer used for Standard Penetration tests	1	1	1	1	1	1
						* Elevation relative to top of main trench + 100 ft West side of building						
The stratification lines represent the approximate boundary. Where between soil types exists, the transition may be gradual.												
1	BORING STARTED				STS OFFICE			Chicago Area-01				
2	4/21/95											
3	BORING COMPLETED				ENTERED BY			SHEET NO. OF				
4	4/21/95				MM							
5	RIG/Foreman				APP'D BY			STS JOB NO.				
6	DP-S/Guenther				CB			26248-18				



CLIENT
The Lockformer Company

SEARCHED INDEXED SERIALIZED FILED 8-104

S.S. CONSULANTS LTD.

PROJECT NAME
Lockformer Status Report

2025 RELEASE UNDER E.O. 14176

SITE LOCATION

733 Ogden Avenue, Little, Illinois

CLIENT The Lockformer Company				JOB OF BORING NUMBER B-104											
PROJECT NAME Lockformer Status Report				ARCHITECT-ENGINEER											
SITES CONSULTANTS LTD.															
SITE LOCATION 733 Ogden Avenue, Lisle, Illinois															
DEPTH (ft)	ELEVATION (ft)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DISTANCE	RECOVERED	DESCRIPTION OF MATERIAL	UNCONFINED COMPRESSIVE STRENGTH TONS FT ²								
							1	2	3	4	5				
INCHES	FEET	INCHES	FEET	INCHES	FEET	INCHES	PLASTIC LIMIT %	WATER CONTENT %	LIQUID LIMIT %	STANDARD PENETRATION TEST	BLOWS FT 20	BLOWS FT 30	STANDARD PENETRATION TEST	BLOWS FT 40	BLOWS FT 50
SURFACE ELEVATION 89.4 *															
Continued from previous page															
89.4															
14	SS					Gravelly sand, trace limestone fragments and cobbles									
15	SS					Note Bedrock at 44.5 ft									
89.4	SS					End of Boring Set Well MW-104 Safety Hammer used for Standard Penetration tests									
						SH = 3 in. Shells tube used • Elevation relative to rim of fine trench = 100 at west side of building									
The stratification lines represent the approximate boundary lines between soil types. In-situ, the transition may be gradual.															
W-	BORING STARTED 4/25/95				STS OFFICE Chicago Area-01										
W-	BORING COMPLETED 4/25/95				ENTERED BY L. J. S.				SHEET NO. 06 2 OF 2						
W-	LADS FOREMAN DR-B Submitter				APP C-8 LS				STS USE NO. 26249-1B						

CLIENT The Lockformer Company				LOG OF BORING NUMBER B-105					
PROJECT NAME STS Consultants Ltd : Lockformer Status Report				ARCHITECT-ENGINEER					
SITE LOCATION 731 Ogden Avenue; Lisle, Illinois				UNNOTED UNNOTED UNNOTED UNNOTED UNNOTED					
DEPTH (ft)	SAMPLE #	SAMPLE TYPE	SAMPLE DISTANCE	RECOVERY	DESCRIPTION OF MATERIAL				TESTS PLASTIC LIMIT % WATER CONTENT % LOOSE CONSISTENCY STANDARD PENETRATION TEST BLOWS FT SOIL CONSISTENCY TESTS STANDARD PENETRATION TEST BLOWS FT
					10	20	30	40	
					SURFACE ELEVATION 100.0 *				
1.0	SS				Fill: Silty clay, little sand - brown	550			
2.0	SS					490			
3.0	SS				Fill: Silty clay - brown	500			
4.0	SS				Fill: Clayey, coarse, trace wood - dark brown	500			
5.0	SS				Silt, clay, trace sand - brown	350			
6.0					Note: Sand and silt seams noted				
7.0	SS					400			
8.0	SS					500			
9.0	SS					600			
10.0	SS					600			
11.0	SS					600			
12.0	SS				Silty clay, little to trace sand - gray	100			
13.0	SS					50			
14.0	SS					100			
15.0									
16.0									
17.0									
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89.0									
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91.0									
92.0									
93.0									
94.0									
95.0									
96.0									
97.0									
98.0									
99.0									
100.0									
The stratification lines represent the approximate boundary lines between soil types. In-situ soil transition may be gradual.									
27.0 ft	BORING STARTED 4/24/95				STS OFFICE Chicago Area 01				
ML	BORING COMPLETED 4/26/95				ENTERED BY 4/26				SHEET NO. 01
ML	PDS/FOREMAN				APR 26 1995				STS Job No. 26243-16
ML	DP-3 Guevara								

STC				CLIENT The Lockformer Company	FILE NO. BORING NUMBER	B-106
PROJECT NAME Lockformer Status Report				ARCHITECT-ENGINEER		
SITE LOCATION 711 Ogden Avenue, Lisle, Illinois				UNLABELED UNCOMPRESSIVE STRENGTH TEST NO. 1 2 3 4 5		
DEPTH (ft)	SAMPLE NO.	SAMPLE TYPE	SOIL TEST DISTINCT	DESCRIPTION OF MATERIAL	PLASTIC LIMIT % WATER CONTENT % LIQUID LIMIT %	SOLID TEST NO. 10 20 30 40 50 STANDARD PENETRATION BLOWS FT TEST NO. 25 30 40 50
0.0	1 SS			SURFACE ELEVATION Fill: Silty clay, little gravel, trace sand - brown	<1	
1.0	2 SS				<1	
2.0	3 SS				50	
3.0	4 SS			Silty clay, little sand, trace gravel, brown and gray	100	
4.0	5 SS				60	
5.0	6 SS				100	
6.0	7 SS			Silty clay, trace gravel, and sand - broken gray	100	
7.0				Note: with sand seam at 13.0 ft	100	
8.0	8 SS			Silty clay, trace gravel, sand and shale - gray	100	
9.0	9 SS				20	
10.0	10 SS				20	
11.0	11 SS				10	
12.0	12 SS				5	
13.0	13 SS				40	
				End of Boring		
The stratification lines represent the actual hate boundary lines between soil types in-situ. The transition may be gradual.						
WL	BORING STARTED 4/24 '86			STS OFFICE	Chicago Area-10	
WL	BORING COMPLETED 4/26 '86			ENTERED BY	SHEET NO.	1
WL	RIG/FOREMAN CR-S'Guerrier			APP'D BY	STS USE NO.	25245-10



CLIENT
The Lockformer Company
PROJECT NAME
Lockformer Status Report

LINE OF SIGNING NUMBER 8-120

STS Consultants Ltd **Lockformer Status**
SITE LOCATION
711 Ogden Avenue, Lisle, Illinois

APPLIED ENGINEER

三

CLIENT The Lockformer Company				LOG OF BORING NUMBER B-120								
PROJECT NAME Lockformer Status Report				ARCHITECT-ENGINEER								
SITE LOCATION 711 Ogden Avenue, Lisle, Illinois				UNCONFINED COMpressive STRENGTH TONS/FT ²								
DEPTH (ft)	SAMPLE NO.	SAMPLE TYPE	TEST ITEM	DESCRIPTION OF MATERIAL	PLASTIC LIMIT %	WATER CONTENT %	Liquid Limit %	1'	2'	3'	4'	5'
				SURFACE ELEVATION 57'-4"	X	-	-	15	20	30	40	50
				Continued from previous page	STANDARD PENETRATION TEST	IN FEET	IN CM	15	20	30	40	50
40.0	12	SS		Shavelly sand, faintly silty clay and limestone fragments	<1							
40.0		HS		Note: Offset due to possible void at 30-45 ft.								
40.0	13	SS		Silt, trace to little clay, and sand, trace limestone fragments - gray	<1							
40.0	14	SS		Note: with seams of sand, gravel								
40.0	15	SS										
40.0		HS										
40.0	17	SS			<1							
40.0	18	SS										
40.0				End of Boring Set well Mw-121 Safety Hammer used for Standard Penetration Tests • Elevation relative to site of future foundation = 100 ft west side of building								
The stratification lines represent the approximate boundary lines between soil types in-situ. The transition may be gradual.												
WL	BORING STARTED 4-27-86			STS OFFICE			Chicago Area-01					
WL	BORING COMPLETED 4-29-86			ENTERED BY KME			SHEET NO 2 OF 3					
WL	LAST FOREMAN CP-8 / Guenster			APR 29 1986			STS LOG NO 26248-12					

 CLIENT The Lockformer Company PROJECT NAME Lockformer Status Report SITE LOCATION 711 Ogden Avenue, Lisle, Illinois				LOG OF BORING NUMBER B-122					
				ARCHITECT/ENGINEER					
DEPTH (ft)	ELEVATION (ft)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DISTANCE	RECOVERY	UNCONFINED COMPRESSIVE STRENGTH TONS/FT²			
						1	2	3	4
DESCRIPTION OF MATERIAL						PLASTIC LIMIT %	WATER CONTENT %	Liquid LIMIT %	
						X-----	10 20 30 40 50	X-----	
SURFACE ELEVATION						STANDARD PENETRATION 200	STANDARD PENETRATION 50	BLOWS/FT	
Fill Silty clay, trace gravel and topsoil - brown and black						10	30	45	
Note: Asphalt and gravel layer at surface						10	30	45	
Silty clay, trace to little sand - brown to brownish gray						<10	10	20	
Note: Silt seams and sand pockets noted						<10	10	20	
Silty clay, trace gravel and sand - gray						<10	10	20	
Silty clay, trace gravel and sand - gray						<10	10	20	
Silty clay, trace gravel and sand - gray						<10	10	20	
Silty clay, fine to coarse sand - trace limestone fragments						10	10	20	
End of Boring Borehole grouted upon completion						10	10	20	
<p>The stratification lines represent the approximate boundary lines between soil types in-situ. The transition may be gradual.</p>									
ML	BORING STARTED			STS OFFICE			Chicago Area-01		
ML	BORING COMPLETED			ENTERED BY			SHET NO. 1 OF 1		
ML	RIG/FOREMAN			APP'D BY			STS Job No. 26249-Y-E		
DR-00 Field Log			CB						



CLIENT
The Lockformer Company

LOG OF EATING NUMBER 8-123

PROJECT NAME
Lockformer Status Report

ARCHITECT-ENGINEER

S:S Consultores Ltd

SITE LOCATION
711 Ogden Avenue, Lisle, Illinois

CLIENT The Lockformer Company				LOG OF BORING NUMBER B-123							
PROJECT NAME Lockformer Status Report				ARCHITECT-ENGINEER							
SIS Consultants Ltd.				UNCONFINED COMPRESSIVE STRENGTH TONS/F ²							
SITE LOCATION 711 Ogden Avenue; Lisle, Illinois				1	2	3	4				
DEPTH (ft)	ELEVATION (ft)	SAMPLE NO.	SAMPLE TYPE	DESCRIPTION OF MATERIAL				FIELD PHOTO INDICATING DESCRIPTOR RATINGS (100)	PLASTIC LIMIT %	WATER CONTENT %	LIQUID LIMIT %
(X)		SAMPLE DISTANCE RECOVERY						10 20 30 40 50	10 20 30 40 50	10 20 30 40 50	
								10 20 30 40 50	10 20 30 40 50	10 20 30 40 50	
				SURFACE ELEVATION 100.9							
				Fill Silty clay, trace silt seams - brown Note 2 in. gravel at surface							
5.0		HS									
10.0	1	SS						<1			
15.0	1	IHS									
20.0	2	SS		Silty clay, little sand, trace gravel - brown to brownish gray				<1			
25.0		HS									
30.0	3	SS						<1			
37.0				End of Boring Set well MM-123 Safety Hammer used for Standard Penetration Tests • Elevation relative to site of mine shaft = 100 at west side of building							
<p>The stratification lines represent the approximate boundary lines between soil types. In'st. The transition may be gradual.</p>											
WL	150 ft	BORING STARTED 5/2/95			STS OFFICE Chicago Area-01						
WL		BORING COMPLETED 5/2/95			ENTERED BY KKB			SHEET NO. 01			
WL		RIG/FOREMAN			APPROVED BY CE			STS JOB NO. 26243-4B			
WL		DD-35 P.D.L. Corp.									

The Lockformer Company
STS Project No. 26249-XB
February 14, 1997

4.0 SCHEDULE

Please let us know if The Lockformer Company would like to proceed as recommended above. STS is available to begin a delineation program and related Site Investigation Report and Remediation Objectives Report within 3 weeks of your authorization. We would request a meeting with you to discuss the results of the delineation program and a proposed workplan before a Remedial Action Plan is formulated for the IEPA.

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APPENDIX A

Soil Boring Logs



OWNER
The Lockformer Company
PROJECT NAME
Lockformer

LOG OF BORING NUMBER

E-1

ARCHITECT-ENGINEER

SITE LOCATION

711 Ogden Avenue, Lisle, Illinois

DEPTH (ft) ELEVATION	SAMPLE NO.	SAMPLE TYPE	SAMPLE INSTANCE RECOVERY	DESCRIPTION OF MATERIAL	UNIDRWT LBS/FT	TESTS		
						PATRIC TYPE	DENSE CONTR.	GCL TYPE
				SURFACE ELEVATION 92.0				
1	SS			Silty clay fill, little gravel-and sand, trace shale, roots, asphalt, brick and topsoil - brown and dark brown - very stiff (CL-Fill)				
2.5	PA							
2	SS							
3	PA			Silty fine to coarse crushed limestone gravel fill, trace clay - brown and light gray - very dense - moist (GM-Fill)				
3	SS			Driller's Note: Concrete in tip				
7.5	PA							
4	SS			Silty clay, trace gravel, sand and shale - brown - hard (CL)				
10								
				END OF BORING				Calibrated Peretrometer
				Borehole grouted upon completion				

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES IN-SITU. THE TRANSITION MAY BE GRADUAL

WL Dry	WS	WS OR WD	BORING STARTED	3/12/90	STS OFFICE	Northbrook-01
WL BCR	ACR	ACR	BORING COMPLETED	3/12/90	DRAWN BY	MG
WL	RIG	Bomb	FOREMAN	Cutmas	APPROVED BY	WFS/rz

STS JOB NO
25243-TW



STS Consultants Ltd

OWNER
The Lockformer Company
PROJECT NAME
Lockformer

LOG OF BORING NUMBER
B-2
ARCHITECT-ENGINEER

SITE LOCATION

711 Ogden Avenue, Lisle, Illinois

DEPTH (ft)	ELEVATION (ft)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DISTANCE	RECOVERY	DESCRIPTION OF MATERIAL	UNITS	UNIVERSITY OF ILLINOIS TEST SITE				
								PLASTIC TEST X	TEST CONT. ●	TEST SPT △	TEST STANDARD PENETROMETER ●	
	SURFACE ELEVATION											
1	SS					Silty clay fill, little topsoil, trace gravel, sand and roots - brown and dark brown - medium (CL-Fill)						
2	SS		PA			Silty clay, little sand, trace gravel and shale - brown and gray - hard (CL) Note: Sample 2 - very fine sand pocket						
3	SS		PA			Silty clay, trace gravel, sand and shale - brown and gray - hard (CL) Note: Sample 4 - irregular silt seams						
4			PA									
10												

END OF BORING

Borehole grouted upon completion

*Calibrated Penetrometer

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES IN-SITU. THE TRANSITION MAY BE GRADUAL.

WL	2'6" WS	WS OR WD	BORING STARTED 3/12/90	STS OFFICE	Northbrook-01
WL	BCR	ACR	BORING COMPLETED 3/12/90	DRAWN BY	SHEET NO. 1 OF 1
WL	Dry AB	BGS	Bore	APPROVED	STS JOB NO. 35240-1



STS Consultants Ltd

OWNER
The Lockformer Company
PROJECT NAME
Lockformer

LOG OF BORING NUMBER

B-3

ARCHITECT-ENGINEER**SITE LOCATION**

711 Ogden Avenue, Lisle, Illinois

DEPTH FT. ELEVATION FT.	SAMPLE NO.	SAMPLE TYPE	SAMPLE INSTANCE	RECOVERY	DESCRIPTION OF MATERIAL	TESTS PENETRATION LBS	TESTS PENETRATION LBS				
							1	2	3	4	5
					SURFACE ELEVATION 93.1						
1	SS				Silty clay fill, trace gravel, sand, shale, roots and asphalt - brown, black, dark brown and dark gray - medium to very stiff (CL-CH-Fill)						
2.5	PA				Note: Sample 3 partly organic; Driller's observation: concrete obstruction at depths 9'11" to 11'5"						
2	SS										
3	PA										
3	SS										
4	PA										
4	SS										
10	PA										
12.5	SS				Silty topsoil fill, little gravel and sand, trace clay and roots - black and light brown (OL-Fill)						
12.5	SA SS				Clayey topsoil, little silt, trace sand and roots - dark brown (OL-QH)						
13	SS				Silty clay, trace gravel, sand and roots - brown, and gray very stiff (CL-CH)						
13.5											
					END OF BORING						
					Borehole grouted upon completion						
											"Calibrated Penetrometer"

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES IN-SITU. THE TRANSITION MAY BE GRADUAL

WL	WS OR WD	BORING STARTED	STS OFFICE
WL	Dry	3/12/90	Northbrook-OI
WL	BCR	ACR BORING COMPLETED	DRAWN BY SHEET NO. OF MG 1 1
WL	RIG	FOREMAN DATES	APPROVED WFS 2510-1



STS Consultants Ltd.

OWNER
The Lockformer Company
PROJECT NAME
Lockformer

LOG OF BORING NUMBER

B-1

ARCHITECT-ENGINEER

SITE LOCATION

711 Ogden Avenue, Lisle, Illinois

DEPTH (ft)	ELEVATION (ft)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DISTANCE (ft)	RECOVERY (%)	DESCRIPTION OF MATERIAL	TESTS	UNCONFINED COMPRESSION STRENGTH TESTS					
								1	2	3	4	5	
	SURFACE ELEVATION												
	84.6												
1	SS					Silty clay fill, little gravel, sand and topsoil, trace shale, roots and asphalt - brown, black and gray - stiff to very stiff (CL-CH-Fill)							
2.5	PA												
2	SS												
3	PA												
3	SS												
7.5	PA												
4	SS												
10	PA												
5	SS												
12.5	PA												
6	SS												
13	PA												
7	SS					Clayey topsoil fill, little silt, trace gravel, sand and roots - black and slightly light gray (OL-CH-Fill) Driller's observation: Concrete at depths of 14'6" to 15'							
17.5													
8	SS					Silty clay, trace gravel, sand and shale - dark gray to slightly dark brown - hard (CL-CH)							
20	SS					Silty clay, trace sand and roots - brown - very stiff (CL)							
						END OF BORING							
						Borehole grouted upon completion							

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES IN-SITU. THE TRANSITION MAY BE GRADUAL

WL	WS OR WD	BORING STARTED		STS OFFICE	
WL	BCR	ACR	3/12/90	Northbrook-0!	
WL		BORING COMPLETED		DRAWN BY	SHEET NO. OF
WL	RIG	FORMAT	3/12/90	ME	1
		APP C BY		STS JOB NO	

OWNER				LOG OF BORING NUMBER			
The Lockformer Company				B-5			
PROJECT NAME				ARCHITECT-ENGINEER			
Lockformer							
SITE LOCATION							
711 Ogden Avenue, Lisle, Illinois							
DEPTH (ft)	ELEVATION (ft)	SAMPLE NO.	SAMPLE TYPE	DESCRIPTION OF MATERIAL			
				SAMPLE DISTANCE	RECOVERY	TESTS	TESTS
				SURFACE ELEVATION 85.8			
1	SS			Silty clay fill, little topsoil, trace gravel, sand and roots - slightly light brown and black - stiff (CL-CH-Fill)			
2	PA						
2A	SS						
2A	SS			Silty fine to coarse sand fill, little clay, trace gravel - dark brown and dark gray - medium dense - wet to saturated (SM-Fill)			
2A	PA						
3	SS						
3	PA			Sandy clay fill, little silt and topsoil, trace gravel and roots - black and gray - stiff (CL-CH-Fill)			
4	SS						
4	PA						
5	SS						
5	PA			Silty clay, trace gravel, sand and shale - brown and gray - very stiff (CL-CH)			
6	SS						
6	PA						
END OF BORING				Calibrated Penetrometer			
Borehole grouted upon completion							
THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES IN-SITU. THE TRANSITION MAY BE GRADUAL							
WL 3' 6" WS	WS OR WD	BORING STARTED 3/12/90	STS OFFICE				
WL BCR	ACR	BORING COMPLETED 3/12/90	DRAWN BY MG	SHEET NO 1	OF 1		
WL 9' AB	RIG Boat	FOREMAN Dumas	APPROVED AFS	STS JOB NO	26249-TM		



CUSTOMER
The Lockformer Company

JOB OF BORING NUMBER B-124

PROJECT NAME

Lockformer Status Report

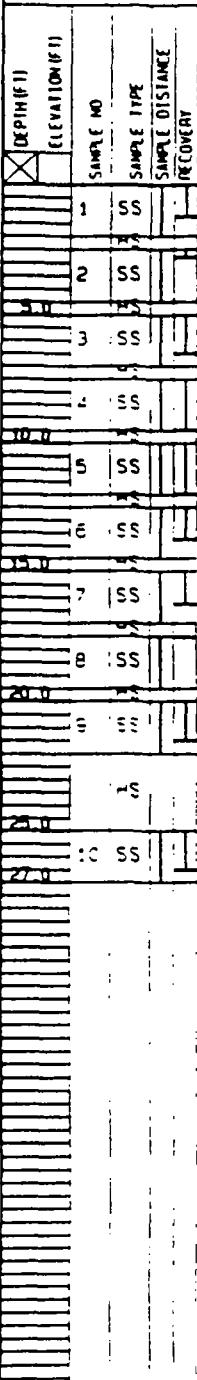
TEST-ENGINEER

STS Consultants Ltd

SITE LOCATION
711 Ogden Avenue, Lisle, Illinois

DEPTH (ft)	ELEVATION (ft)	SAMPLE NO.	TYPE	SAMPLE DISTANCE IN COVER (ft)	DESCRIPTION OF MATERIAL	TESTS	UNCONFINED COMPRESSIVE STRENGTH - TONS/SF				
							10	20	30	40	50
							PLASTIC LIMIT %	WATER CONTENT %	LIMIT %		
SURFACE ELEVATION											
1	SS				Fill. Topsoil						
					Note Partly brown silty cla.						
2	SS				Silty clay, little to trace sand - brown						
3.0	MS				Note with sand seams at 6 ft., 8 ft., and 8.5 ft						
3	SS										
4	SS										
10.0											
5	SS										
6	SS				Silt, clay, trace gravel and sand - gra.						
					End of Boring Borehole grouted upon completion Safety Hammer used for Standard Penetration Tests						
The stratification lines represent the approximate boundary lines between soil types in-situ. The transition may be gradual.											

BL	BORING STARTED 5/3/95	STS OFFICE Chicago Area-01
BL	BORING COMPLETED 5/3/95	ENTERED BY AEB SHEET NO. 1 OF 1
BL	RIG FOREMAN DR-95 Owner	APP'D BY TS STS JOB NO 26249-YB

 <p>CLIENT The Lockformer Company</p> <p>PROJECT NAME Lockformer Status Report</p> <p>SITE LOCATION 711 Ogden Avenue, Lisle, Illinois</p>				LOG OF BORING NUMBER B-125							
				ARCHITECT-ENGINEER							
BORING #	ELEVATION (ft)	SAMPLE NO.	SAMPLE TYPE	FIELD PHOTO IDENTIFICATION	UNCONFINED COMPRESSION STRENGTH PSI/IN ²						
					2	3	4	5			
	DESCRIPTION OF MATERIAL				PLASTIC LIMIT %	WATER CONTENT %	LIQUID LIMIT %				
	SURFACE ELEVATION				X	- - -	●	- - -	▲		
	1	SS	Fill - Fossil - brown and black				10	20	30	40	50
	1.5		Note: Partly silt, clay								
	2	SS									
	2.5	PS									
	3	SS	Silty clay - brown								
	3.5		Note: with sand seams								
	4	SS					<:				
	4.5										
	5	SS					:				
	5.5		Gravelly sand - trace limestone fragments				:				
	6	SS					:				
	6.5						2				
7	SS					2					
7.5						2					
8	SS					2					
8.5						2					
9	SS					2					
9.5						2					
10	SS					2					
End of boring Hole grouted upon completion Heferty Hammer used for Standard Penetration Tests											
The stratification lines represent the approximate boundary lines between soil types in-situ. The transition may be gradual.											
BL	BORING STARTED			STS OFFICE	Chicago Area-01						
BL	E 3:35										
BL	BORING COMPLETED			ENTERED BY	SHEET NO. 1 OF 1						
BL	E 3:35			KKE							
BL	BIG FOREMAN			APP'D BY	STS JOB NO. 25248-18						
BL	CR-35 Queen-18			CB							



PROJECT NAME
The Lockformer Company
PROJECT NAME
Lockformer Status Report

SEARCHED INDEXED SERIALIZED FILED 8-126

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STS Consultations - 1

SITE LOCATION
711 Ogden Avenue, Lisle, Illinois

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CLIENT The Lockformer Company				JOB NUMBER B-126
SELECT NAME Lockformer Status Report				APPLICANT-ENGINEER
STS Consultants Inc. SITE LOCATION 711 Ogden Avenue, Lisle, Illinois				TESTS UNCONFINED COMPRESSION STRAIN RATE TEST
DEPTH (ft)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DISTANCE FROM RECOVERY	DESCRIPTION OF MATERIAL
				TESTS IN HOLLOW TUBE OR NAIL HOLE
				10 20 30 40 50
				S STANDARD PENETRATION BLOWS/FT 10 20 30 40 50
SURFACE ELEVATION 96.7				
Continued from previous page				
9.0	SS			Fine to medium sand - trace gravel - saturated Silt seam noted at 65.5 ft
9.4				
9.8				
10.0	SS			
10.4	RE			
10.8	SS			
11.2	RE			
11.6	SS			
12.0				
12.4	RE			
12.8	SS			
13.2	RE			
13.6	RE			
14.0	RE			
14.4	RE			
14.8	RE			
15.2	RE			
15.6	RE			
16.0	RE			
16.4	RE			
16.8	RE			
17.2	RE			
17.6	RE			
18.0	RE			
18.4	RE			
18.8	RE			
19.2	RE			
19.6	RE			
20.0	RE			
20.4	RE			
20.8	RE			
21.2	RE			
21.6	RE			
22.0	RE			
22.4	RE			
22.8	RE			
23.2	RE			
23.6	RE			
24.0	RE			
24.4	RE			
24.8	RE			
25.2	RE			
25.6	RE			
26.0	RE			
26.4	RE			
26.8	RE			
27.2	RE			
27.6	RE			
28.0	RE			
28.4	RE			
28.8	RE			
29.2	RE			
29.6	RE			
30.0	RE			
30.4	RE			
30.8	RE			
31.2	RE			
31.6	RE			
32.0	RE			
32.4	RE			
32.8	RE			
33.2	RE			
33.6	RE			
34.0	RE			
34.4	RE			
34.8	RE			
35.2	RE			
35.6	RE			
36.0	RE			
36.4	RE			
36.8	RE			
37.2	RE			
37.6	RE			
38.0	RE			
38.4	RE			
38.8	RE			
39.2	RE			
39.6	RE			
40.0	RE			
40.4	RE			
40.8	RE			
41.2	RE			
41.6	RE			
42.0	RE			
42.4	RE			
42.8	RE			
43.2	RE			
43.6	RE			
44.0	RE			
44.4	RE			
44.8	RE			
45.2	RE			
45.6	RE			
46.0	RE			
46.4	RE			
46.8	RE			
47.2	RE			
47.6	RE			
48.0	RE			
48.4	RE			
48.8	RE			
49.2	RE			
49.6	RE			
50.0	RE			
The stratification lines represent the approximate boundary lines between soils. These lines do not indicate the transition may be gradual.				
ML	50.0 ft	BOREING STARTED	STS OFFICE	Chicago Area-01
ML		5-4-86		
ML		BOREING COMPLETED	ENTERED BY	SHEET NO 2 OF 2
ML		5-8-86		
ML		STS FOREMAN	APP'D BY	STS JOB NO 26249-1B
ML		CA-35 Guenzen		

 <p>CUSTOMER The Lockformer Company</p> <p>PROJECT NAME Lockformer</p> <p>SITE LOCATION 711 Ogden Avenue, Chicago, Illinois</p>				JOINT DRAWING NUMBER 5-201					
				PROJECT ENGINEER					
				TESTED UNDRAINED COMPRESSION STRENGTH KIPS/INCH²					
				0.0 0.2 0.4 0.6 0.8 1.0					
DEPTH (ft)	ELEVATION (ft)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DISCUSSION	DESCRIPTION OF MATERIAL	TEST PHOTO INDICATOR	TEST NUMBER	WATER CONTENT %	LIQUID LIMIT %
								0.0 20 30 40 50	20 30 40 50
SURFACE ELEVATION					STANDARD PENETRATION BLOWS/6 IN.				
PA									
1	ST				Fill Silty clay, little to trace topsoil, trace cinders - dark gray and brown	<1			
2	SS				Note Partly clavie, sand Sample 1	<1			
3	PA								
3	ST				Silty clay, trace gravel, and sand - brown and gray - hard to very stiff	<1			
4	ST					<1			
5	PA					<1			
6	ST					<1			
End of Boring Borehole grouted upon completion					• Calibrated Penetrometer				
<p>The stratification lines represent the approximate boundary lines between soil types in-situ. The transition may be gradual.</p> <p>BORING STARTED 12-20-96 BY S.S. OFFICE Chicago Area-01 BORING COMPLETED 12-20-96 ENTERED BY SHEET NO. 3F S.S. FOREMAN APP'D BY S.S. JOE 'C' 26249-XB B-S-3001 38</p>									

TEST REPORT			TEST NUMBER	B-202																									
The Lockformer Company			LABORATORY PERSONNEL																										
S.S. Consultants, Inc.			Lockformer																										
SITE LOCATION:			711 Ogden Avenue, Chicago, Illinois																										
DEPTH (ft)	SAMPLE NO.	SAMPLE TYPE	UNCONFINED COMPRESSIVE STRENGTH																										
			IN SITU	TESTED	TONS/FT ²	3	4	5																					
		DESCRIPTION OF MATERIAL	INITIAL TESTED TESTED	PLASTIC LIMIT (%)	WATER CONTENT (%)	SOLID LIMIT (%)																							
							10	20	30	40	50																		
	1	PA	SURFACE ELEVATION		<1	10	STANDARD PENETRATION TEST																						
			Fill; Silty clay, trace topsoil - brown and dark gray				27	30	40	50																			
	2	ST			<1	10																							
			Silty topsoil, little sand - black				27	30	40	50																			
	3	PA			<1	10																							
			Silt, s.s., trace gravel, and sand - brown and gray - dense				27	30	40	50																			
	4	ST			<1	10																							
			Silt, s.s., trace gravel, and sand - brown and gray - dense				27	30	40	50																			
	5	PA			<1	10																							
			Silt, s.s., trace gravel, and sand - brown and gray - dense				27	30	40	50																			
	6	ST			<1	10																							
			Silt, s.s., trace gravel, and sand - brown and gray - dense				27	30	40	50																			
	7	PA			<1	10																							
			Silt, s.s., trace gravel, and sand - brown and gray - dense				27	30	40	50																			
	8	SS			<1	10																							
			Silt, s.s., trace gravel, and sand - brown and gray - dense				27	30	40	50																			
	9	SS			<1	10																							
			Silt, s.s., trace gravel, and sand - brown and gray - dense				27	30	40	50																			
	10	SS			<1	10																							
			Silt, s.s., trace gravel, and sand - brown and gray - dense				27	30	40	50																			
10 ft. below surface			Calibrated Penetrometer																										
<p>The stratification lines represent the approximate boundary lines between soil types in-situ. The transition may be gradual.</p> <table border="1"> <tr> <td>Dr.</td> <td>BORING STARTED</td> <td>LISTS OFFICE</td> </tr> <tr> <td>Dr.</td> <td>12/20/86</td> <td>Chicago Area-01</td> </tr> <tr> <td>Dr. AB</td> <td>BORING COMPLETED</td> <td>ENTERED BY</td> </tr> <tr> <td>Dr. AB</td> <td>12/21/86</td> <td>SHEET NO. OF</td> </tr> <tr> <td>AB</td> <td>BOG FOREMAN</td> <td>APP C BY</td> </tr> <tr> <td>AB</td> <td>E-57 (B-11)</td> <td>STL JOB NO.</td> </tr> <tr> <td>AB</td> <td></td> <td>26249-1B</td> </tr> </table>									Dr.	BORING STARTED	LISTS OFFICE	Dr.	12/20/86	Chicago Area-01	Dr. AB	BORING COMPLETED	ENTERED BY	Dr. AB	12/21/86	SHEET NO. OF	AB	BOG FOREMAN	APP C BY	AB	E-57 (B-11)	STL JOB NO.	AB		26249-1B
Dr.	BORING STARTED	LISTS OFFICE																											
Dr.	12/20/86	Chicago Area-01																											
Dr. AB	BORING COMPLETED	ENTERED BY																											
Dr. AB	12/21/86	SHEET NO. OF																											
AB	BOG FOREMAN	APP C BY																											
AB	E-57 (B-11)	STL JOB NO.																											
AB		26249-1B																											

SS		CLIENT The Lockformer Company	LOG OF BORING NUMBER B-203												
S'S Consultants Ltd.		PROJECT NAME Lockformer	TEST-TEST-ENVELOPE												
SITE LOCATION 711 Ogden Avenue, Chicago, Illinois		TESTED UNDRAINED COMPRESSIVE STRENGTH													
DEPTH (ft)	ELEVATION	DESCRIPTION OF MATERIAL	TEST NUMBER												
			PLASTIC LIMIT (%)	WATER CONTENT (%)	LIMIT (%)										
			10 20 30 40 50												
			15 25 35 45 55												
DEPTH (ft)	ELEVATION	DESCRIPTION OF MATERIAL	TEST NUMBER												
			STANDARD PENETRATION BLOWS/FT												
			20 30 40 50												
SURFACE ELEVATION															
PA		FILL: Silty clay, little coarse; trace gravel and sand - dark gray and brown	1110 <1												
1 ST	H														
PA		FILL: Silty clay, little sand - brown and gray	<1												
2 ST	H														
3 ST		Silv. clay, trace pebbles - silty													
PA															
4 ST		Silty clay, trace gravel and sand - brown													
PA															
5 SE		Fine to coarse sand, little to trace silt; little gravel - brown & tan	<1												
PA															
6 SE															
PA															
TEST BY BORING		Calibrated Penetrometer													
<p>The stratification lines represent the approximate boundary lines between soil types listed. The transition may be gradual.</p> <table border="1"> <tr> <td>DR.</td> <td>BORING STARTED 12/20/96</td> <td>S'S OFFICE Chicago Area-01</td> </tr> <tr> <td>DR. #E</td> <td>BORING COMPLETED 12/20/96</td> <td>ENTERED BY KRE</td> </tr> <tr> <td>DR.</td> <td>BORE FOREMAN B-ET-E111</td> <td>APP'D BY CE</td> </tr> <tr> <td></td> <td></td> <td>S'S LOG NO. 26249-XE</td> </tr> </table>				DR.	BORING STARTED 12/20/96	S'S OFFICE Chicago Area-01	DR. #E	BORING COMPLETED 12/20/96	ENTERED BY KRE	DR.	BORE FOREMAN B-ET-E111	APP'D BY CE			S'S LOG NO. 26249-XE
DR.	BORING STARTED 12/20/96	S'S OFFICE Chicago Area-01													
DR. #E	BORING COMPLETED 12/20/96	ENTERED BY KRE													
DR.	BORE FOREMAN B-ET-E111	APP'D BY CE													
		S'S LOG NO. 26249-XE													

APPENDIX B

Installation Details

STS FIELD WELL INSTALLATION DIAGRAM



DEPTH	ELEV *	FLUSH MOUNT: YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>
END OF CAP WITH HOLE ON STANDPIPE? YES OR NO		
STANDPIPE STICKUP FT. <u>2</u>	101.78	
CONCRETE <small>(CROSS OUT IF NOT USED)</small>	100.12	
BENTONITE CEMENT POWDER <small>(CROSS OUT IF NOT USED)</small>		
BACKFILL MATERIAL <u>bentonite chips</u>		
PIPE DIA <u>2</u> IN.		
SCH. <u>40</u>		
<small>(IF PVC USED)</small>		
BENTONITE PELLETS <small>(CROSS OUT IF NOT USED)</small>		
SILICA SAND <small>(CROSS OUT IF NOT USED)</small>	67.42	
PEA GRAVEL (CONCRETE SAND) ON-SITE SAND SILICA SAND <small>(CIRCLE ONE)</small>		
MATERIAL <small>CROSS OUT IF NOT DRILLED</small>	77.42	
TIP OF WELL TO GROUND SURFACE		

1) TYPE OF CASING
(PVC,) GALVANIZED, (STAINLESS,) OTHER Lower 10' riser =
MULTIPLE CASING: SIZE _____ LENGTH _____
SIZE _____ LENGTH _____

2) TYPE OF CASING JOINTS
BELLED, COUPLINGS,(THREADED) OTHER _____

3) TYPE OF WELL SCREEN
PVC, GALVANIZED,(STAINLESS) OTHER _____

4) SCREEN SLOT SIZE 0.010

5) SCREEN LENGTH 10 ft.

6) INSTALLED PROTECTOR PIPE W/LOCK? YES OR NO

7) DRILLING METHOD HS
DRILLING FLUID No
BOREHOLE DIAMETER 8"

8) BACKFILL MATERIAL INSTALLATION FROM
(SURFACE) TREMIE

9) HOW WAS WELL DEVELOPED?
(BAILING, PUMPING, SURGING, COMPRESSED AIR)

10) APPROXIMATE WATER VOLUME REMOVED OR ADDED?
5 GAL, 10 GAL, 15 GAL, OTHER 21 gal

11) WATER CLARITY BEFORE DEVELOPMENT
CLEAR, (TURBID,) OPAQUE

12) WATER CLARITY AFTER DEVELOPMENT
CLEAR, (TURBID,) OPAQUE

13) DID THE WATER HAVE AN ODOR? YES OR (NO)

14) WATER LEVEL SUMMARY
1) DEPTH FROM T. STANDPIPE AFTER DEVELOPMENT?
FT. OR DRY

2) OTHER MEASUREMENTS:
DATE 11/19/96 . 12 FT. FROM T. ST. PIPE
DATE 11/19/96 . 12 FT. FROM T. ST. PIPE
DATE _____ . _____ FT. FROM T. ST. PIPE
DATE _____ . _____ FT. FROM T. ST. PIPE

* Elevation relative to rim of fire hydrant, west side of building. = 100

WELL NO. MW-101 DATE INSTALLED 4/21/96 DRILL RIG DR9
 DRILLER Guerrier DRILL CREW Pappas
 JOB/CLIENT Lockformer STS PROJECT NO. 26249XB

STS FIELD WELL INSTALLATION DIAGRAM



DEPTH <p>END OF CAP WITH HOLE ON STANDPIPE? YES OR NO</p> <p>STANDPIPE STICKUP FT. 1.9</p> <p>CONCRETE (CROSS OUT IF NOT USED)</p> <p>BENTONITE CEMENT & GROUT chips (CROSS OUT IF NOT USED)</p> <p>BACKFILL MATERIAL cement bentonite grout</p> <p>PIPE DIA 2 IN.</p> <p>SCH. 40</p> <p>(IF PVC USED)</p> <p>BENTONITE REINFORCER chips (CROSS OUT IF NOT USED)</p> <p>SILICA SAND (CROSS OUT IF NOT USED)</p> <p>PEA GRAVEL CONCRETE SAND ON-SITE SAND SILICA SAND (CIRCLE ONE)</p> <p>MATERIAL (CROSS OUT IF NOT DRILLED)</p>	ELEV. * 101.40 99.42 72.42 60.42 65.82 58.82	FLUSH MOUNT: YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>
1) TYPE OF CASING (PVC,)GALVANIZED(STAINLESS,)OTHER stainless steel MULTIPLE CASING: SIZE _____ LENGTH _____ SIZE _____ LENGTH _____ Lower 10 ft riser		
2) TYPE OF CASING JOINTS BELLED, COUPLINGS,(THREADED,) OTHER		
3) TYPE OF WELL SCREEN PVC, GALVANIZED,(STAINLESS) OTHER		
4) SCREEN SLOT SIZE 0.010		
5) SCREEN LENGTH 10 ft.		
6) INSTALLED PROTECTOR PIPE W/LOCK?(YES <input type="checkbox"/> OR NO		
7) DRILLING METHOD HS DRILLING FLUID -- BOREHOLE DIAMETER 8"		
8) BACKFILL MATERIAL INSTALLATION FROM SURFACE: TREMIE		
9) HOW WAS WELL DEVELOPED? (BAILING,) PUMPING, SURGING, COMPRESSED AIR		
10) APPROXIMATE WATER VOLUME REMOVED OR ADDED? 5 GAL, 10 GAL, 15 GAL, OTHER N/A		
11) WATER CLARITY BEFORE DEVELOPMENT CLEAR, TURBID, OPAQUE N/A		
12) WATER CLARITY AFTER DEVELOPMENT CLEAR, TURBID, OPAQUE N/A		
13) DID THE WATER HAVE AN ODOR? YES OR NO N/A		
14) WATER LEVEL SUMMARY 1) DEPTH FROM T. STANDPIPE AFTER DEVELOPMENT? FT. OR DRY		
2) OTHER MEASUREMENTS: DATE 11/18/95 , dry FT. FROM T. ST. PIPE DATE 11/19/95 , dry FT. FROM T. ST. PIPE DATE _____ FT. FROM T. ST. PIPE DATE _____ FT. FROM T. ST. PIPE		

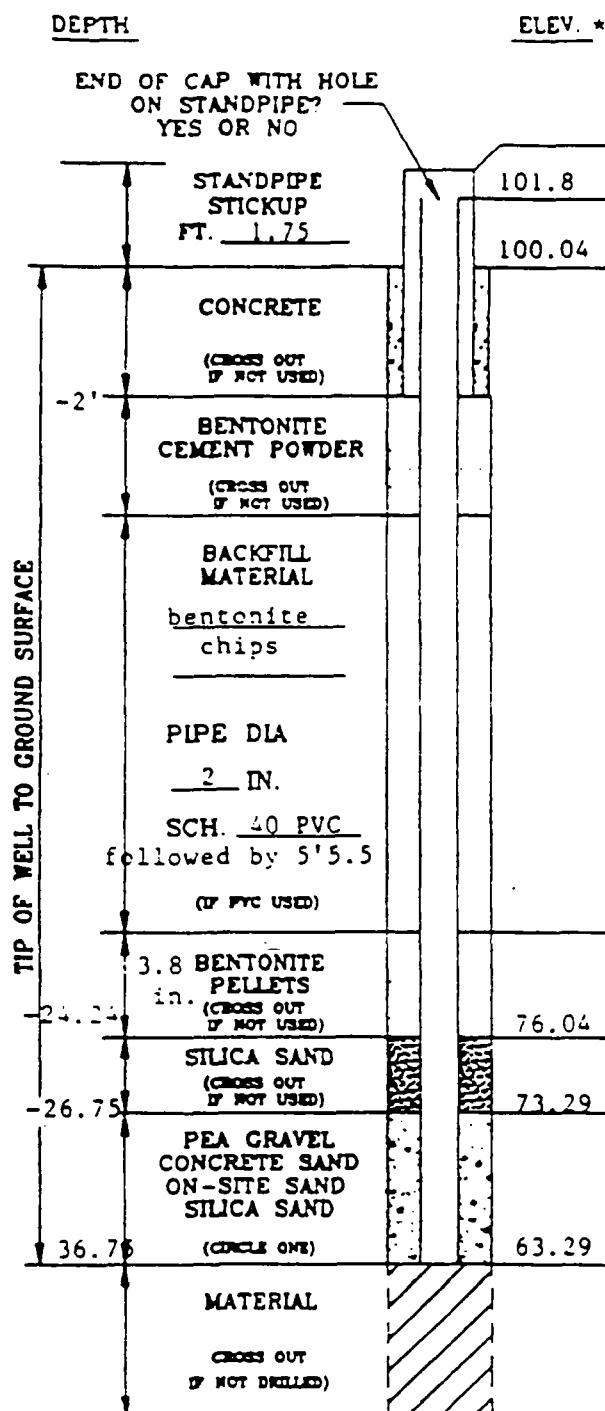
* Elevation relative to fire hydrant west side of building, rim = 100

WELL NO. MW-104 DATE INSTALLED 4/26/95 DRILL RIG DR9

DRILLER Guerrier DRILL CREW Pappas, Mottlow

JOB/CLIENT Lockformer STS PROJECT NO. 26249XB

STS FIELD WELL INSTALLATION DIAGRAM



FLUSH MOUNT: YES NO

- 1) TYPE OF CASING
(PVC, GALVANIZED, (STAINLESS) OTHER _____
MULTIPLE CASING: SIZE _____ LENGTH _____
SIZE _____ LENGTH _____)
- 2) TYPE OF CASING JOINTS
BELLED, COUPLINGS, (THREADED) OTHER _____
- 3) TYPE OF WELL SCREEN
PVC, GALVANIZED (STAINLESS) OTHER _____
- 4) SCREEN SLOT SIZE 0.010
- 5) SCREEN LENGTH 10 ft
- 6) INSTALLED PROTECTOR PIPE W/LOCK? (YES) OR NO
- 7) DRILLING METHOD HS Auger
DRILLING FLUID _____ None
BOREHOLE DIAMETER 8 1/4"
- 8) BACKFILL MATERIAL INSTALLATION FROM
(SURFACE) TRECIE
- 9) HOW WAS WELL DEVELOPED?
(BAILING, PUMPING, SURGING, COMPRESSED AIR)
- 10) APPROXIMATE WATER VOLUME REMOVED OR ADDED?
5 GAL, 10 GAL, 15 GAL, OTHER only 9" water not developed
- 11) WATER CLARITY BEFORE DEVELOPMENT
CLEAR, (TURBID,) OPAQUE
- 12) WATER CLARITY AFTER DEVELOPMENT
CLEAR, TURBID, OPAQUE N/A
- 13) DID THE WATER HAVE AN ODOR? YES OR(No)
- 14) WATER LEVEL SUMMARY
 - 1) DEPTH FROM T. STANDPIPE AFTER DEVELOPMENT?
FT. OR(DRY)
 - 2) OTHER MEASUREMENTS:
DATE _____ FT. FROM T. ST. PIPE
DATE _____ FT. FROM T. ST. PIPE
DATE _____ FT. FROM T. ST. PIPE
DATE _____ FT. FROM T. ST. PIPE

* Elevation relative to fire hydrant west side of building = 100

WELL NO. MW-105 DATE INSTALLED 4/25 '95 DRILL RIG DR9

DRILLER Guerrier DRILL CREW John

JOB/CLIENT Lockformer STS PROJECT NO. 26249XB

STS FIELD WELL INSTALLATION DIAGRAM



DEPTH	ELEV. *	FLUSH MOUNT: YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>
	99.7	1) TYPE OF CASING PVC, GALVANIZED, (STAINLESS) OTHER stainless steel MULTIPLE CASING SIZE _____ LENGTH _____ SIZE _____ LENGTH _____
	97.42	Lower 15" riser = 2) TYPE OF CASING JOINTS BELLED, COUPLINGS, (THREADED,) OTHER _____
		3) TYPE OF WELL SCREEN PVC, GALVANIZED, (STAINLESS,) OTHER _____
		4) SCREEN SLOT SIZE 0.010
		5) SCREEN LENGTH 5 ft
		6) INSTALLED PROTECTOR PIPE W/LOCK? (YES) OR NO
		7) DRILLING METHOD HS DRILLING FLUID No BOREHOLE DIAMETER 8"
		8) BACKFILL MATERIAL INSTALLATION FROM (SURFACE; TREMIE)
		9) HOW WAS WELL DEVELOPED? (BAILING, PUMPING, SURGING, COMPRESSED AIR)
		10) APPROXIMATE WATER VOLUME REMOVED OR ADDED? 5 GAL, 10 GAL, 15 GAL, OTHER 30 gal
	11) WATER CLARITY BEFORE DEVELOPMENT CLEAR, (TURBID,) OPAQUE	
	12) WATER CLARITY AFTER DEVELOPMENT CLEAR, TURBID, (OPAQUE)	
	13) DID THE WATER HAVE AN ODOR? YES OR(No)	
	14) WATER LEVEL SUMMARY 1) DEPTH FROM T. STANDPIPE AFTER DEVELOPMENT? 40 FT. OR DRY	
	2) OTHER MEASUREMENTS: DATE 11/19/96 . 30 FT. FROM T. ST. PIPE DATE _____ . 40 ft FROM T. ST. PIPE DATE _____ . _____ FT. FROM T. ST. PIPE DATE _____ . _____ FT. FROM T. ST. PIPE	

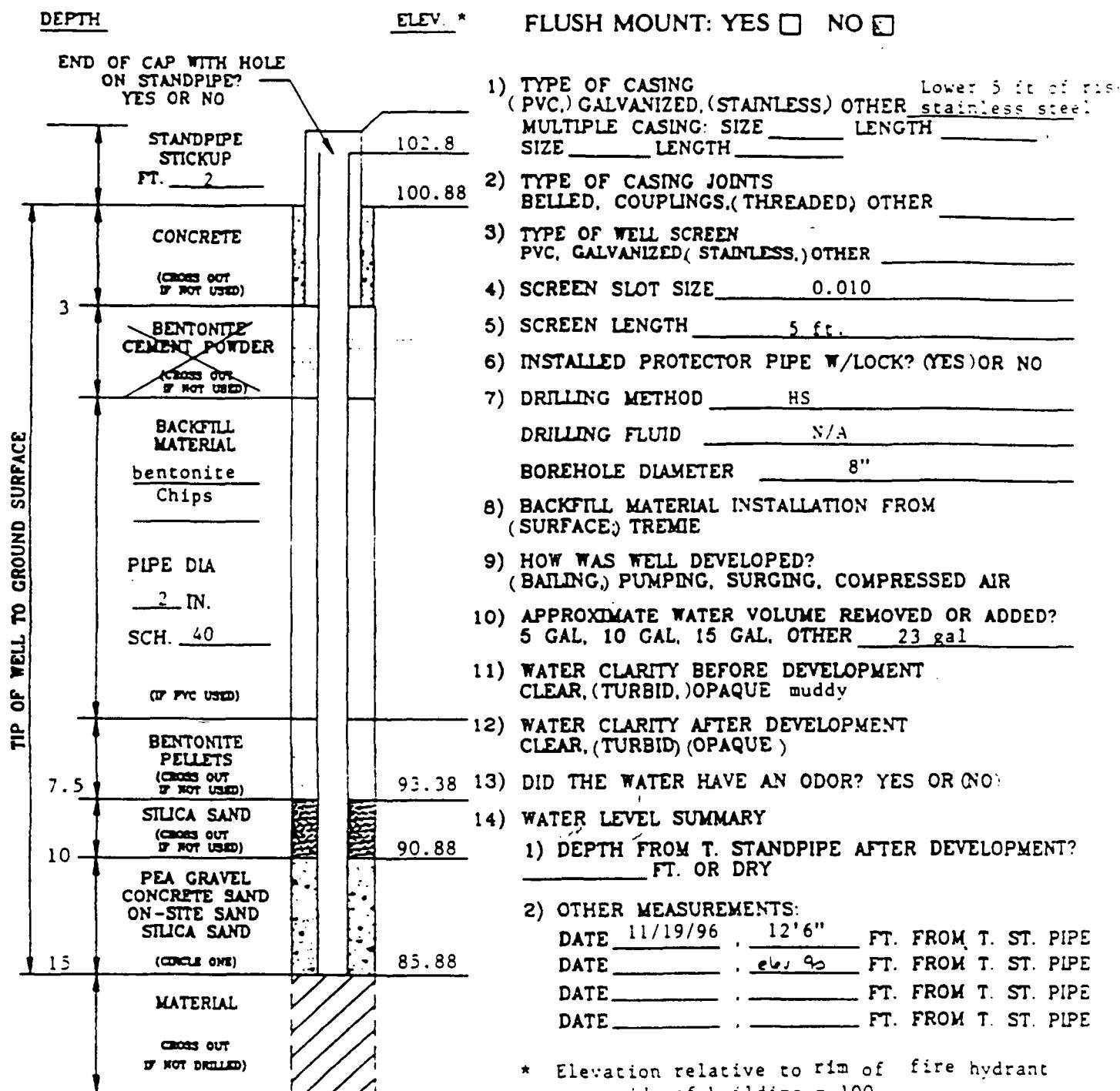
* Elevation relative to rim of fire hydrant west side of building. = 100

WELL NO. MW-120 DATE INSTALLED 4/26/95 DRILL RIG _____

DRILLER Guerrier DRILL CREW Pappas

JOB/CLIENT Lockformer STS PROJECT NO. 26249XB

STS FIELD WELL INSTALLATION DIAGRAM



WELL NO. MW-123 DATE INSTALLED 5/2/95 DRILL RIG DR35

DRILLER Polycarp DRILL CREW Mottlow/Powley

JOB/CLIENT Lockformer STS PROJECT NO. 26249XB

STS FIELD WELL INSTALLATION DIAGRAM



DEPTH	ELEV. *	FLUSH MOUNT: YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>
END OF CAP WITH HOLE ON STANDPIPE? YES OR NO		
STANDPIPE STICKUP FT. 3.3	99.02	1) TYPE OF CASING (PVC) GALVANIZED, (STAINLESS), OTHER _____ MULTIPLE CASING: SIZE _____ LENGTH _____ SIZE _____ LENGTH _____
CONCRETE (CROSS OUT IF NOT USED)	96.68	2) TYPE OF CASING JOINTS BELLED, COUPLINGS, (THREADED), OTHER _____
BENTONITE CEMENT POWDER (CROSS OUT IF NOT USED)		3) TYPE OF WELL SCREEN PVC, GALVANIZED, (STAINLESS) OTHER _____
BACKFILL MATERIAL cement bentonite grout		4) SCREEN SLOT SIZE 0.010
PIPE DIA IN. SCH. _____ (IF PVC USED)		5) SCREEN LENGTH 10 ft
BENTONITE PELLETS (CROSS OUT IF NOT USED)		6) INSTALLED PROTECTOR PIPE W/LOCK? (YES) OR NO
SILICA SAND (CROSS OUT IF NOT USED)	67.7	7) DRILLING METHOD HS DRILLING FLUID N/A BOREHOLE DIAMETER 8"
PEA GRAVEL CONCRETE SAND ON-SITE SAND SILICA SAND (CIRCLE ONE)	28.98	8) BACKFILL MATERIAL INSTALLATION FROM SURFACE: TREMIE
MATERIAL (CROSS OUT IF NOT DRILLED)	77.7	9) HOW WAS WELL DEVELOPED? (BAILING,) PUMPING, SURGING, COMPRESSED AIR
	18.98	10) APPROXIMATE WATER VOLUME REMOVED OR ADDED? 5 GAL, 10 GAL, 15 GAL, OTHER 40 gal
		11) WATER CLARITY BEFORE DEVELOPMENT CLEAR, (TURBID), OPAQUE
		12) WATER CLARITY AFTER DEVELOPMENT CLEAR, TURBID, (OPAQUE)
		13) DID THE WATER HAVE AN ODOR? YES OR(NO)
		14) WATER LEVEL SUMMARY
		1) DEPTH FROM T. STANDPIPE AFTER DEVELOPMENT? FT. OR DRY
		2) OTHER MEASUREMENTS: DATE 11/19/96, 52 FT. FROM T. ST. PIPE DATE _____, 40' FT. FROM T. ST. PIPE DATE _____, 40' FT. FROM T. ST. PIPE DATE _____, 40' FT. FROM T. ST. PIPE

* Elevation relative to rim of fire hydrant
west side of building = 100

WELL NO. MW-126 DATE INSTALLED 5/5/95 DRILL RIG DR35
 DRILLER Guerrier DRILL CREW Mottlow, Pappas
 JOB/CLIENT Lockformer STS PROJECT NO. 26249XB

Client #: 11-11-11
Address:

Page: 1
Date: 11/11/97
Log #: 11-11-11

Sample ID: 11-11-11-1
Sample Name: 11-11-11-1

Sample Description:

Pesticide sample -
Collected by:

Label: 11-11-11
Date Sampled: 11/11/97
Time Sampled: 11:00 AM
Date Received: 11/11/97
Collected By: Client

Parameter	Results	Units	Method	Reportable		
				Detect Limit	Extr. Date	Analysis Date

✓ Volatile Organic Compounds continued

All values are in parts per billion
* Determination of detection limits and calculated detection limits
by the laboratory. All detection limits are based on 100% recovery of Methyl
Benzene. Detection limits are determined by the following formula:
Detection limit = 3 * Standard deviation / Slope of calibration curve

Signature: *Marino Fernandes*
Date: 11/11/97
Comments: Sample fully supported

Client #: 100-00001
 Address: SMC CONSULTANTS
 1411 Lake Park Rd.
 Des Plaines IL 60016
 Attn: Jennifer Bonnickiewicz

Page: Page 1 of 1
 Date: 11/29/98
 Log #: 11290011

Sample Description:

Polymerization Sample, Sample 14
Unknown

Label: NW-101
 Date Sampled: 11/29/98
 Time Sampled: 14:31
 Date Received: 11/29/98
 Collected By: Client

Parameter	Results	Units	Method	Reportable		Extr. Date	Analysis Date	Analysis
				Detect Limit	Analysis			
Volatile Organic Compounds								
Dichlorodifluoromethane	ppm	ppm	ECD	0.01	0.01	11/27	11/27	11/27
Ethanol	ppm	ppm	ECD	0.04	0.001	11/27	11/27	11/27
Isobutylmethane	ppm	ppm	ECD	0.04	0.01	11/27	11/27	11/27
Methyl Chloride	ppm	ppm	ECD	0.04	0.01	11/27	11/27	11/27
Propane	ppm	ppm	ECD	0.04	0.01	11/27	11/27	11/27
Butane	ppm	ppm	ECD	0.04	0.01	11/27	11/27	11/27
Trichlorofluoromethane	ppm	ppm	ECD	0.04	0.01	11/27	11/27	11/27
Acetone	ppm	ppm	ECD	0.04	0.01	11/27	11/27	11/27
1,1,1-Trifluoroethane	ppm	ppm	ECD	0.04	0.01	11/27	11/27	11/27
Heptane	ppm	ppm	ECD	0.04	0.01	11/27	11/27	11/27
Octane	ppm	ppm	ECD	0.04	0.01	11/27	11/27	11/27
Carbon Disulfide	ppm	ppm	ECD	0.04	0.01	11/27	11/27	11/27
Methylene Chloride	ppm	ppm	ECD	0.04	0.01	11/27	11/27	11/27
Acrylonitrile	ppm	ppm	ECD	0.04	0.01	11/27	11/27	11/27
Trans-1,2-Dibromoethene	ppm	ppm	ECD	0.04	0.01	11/27	11/27	11/27
1,1-Dibromoethane	ppm	ppm	ECD	0.04	0.01	11/27	11/27	11/27
Isobutyl Acetate	ppm	ppm	ECD	0.04	0.01	11/27	11/27	11/27
1-Ethyl-1,1-d	ppm	ppm	ECD	0.04	0.01	11/27	11/27	11/27
Salicylic Acid	ppm	ppm	ECD	0.04	0.01	11/27	11/27	11/27
1,1,1-Trichloroethane	ppm	ppm	ECD	0.04	0.01	11/27	11/27	11/27
Cyclohexene	ppm	ppm	ECD	0.04	0.01	11/27	11/27	11/27
Benzene	ppm	ppm	ECD	0.04	0.01	11/27	11/27	11/27
1,1,2,2-Tetrachloroethane	ppm	ppm	ECD	0.04	0.01	11/27	11/27	11/27

Client #: 111-111-1111
Address: 111-111-1111

Page: 111
Date: 11/11/98
Log #: 111

Sample Description:

By Client - Samples
Unknown

Label: 111-111-1111
Date Sampled: 11/11/98
Time Sampled: 14:00
Date Received: 11/11/98
Collected By: Client

Parameter	Results	Units	Method	Reportable Detect Limit	Extr. Date	Analysis Date	Analyst
-----------	---------	-------	--------	----------------------------	------------	---------------	---------

Volatile Organic Compounds (continued)

Trichloroethane	ND	ppm	ECD 8140	ND	11/11/98	11/11/98	111
1,1-Dichloroethane	ND	ppm	ECD 8140	ND	11/11/98	11/11/98	111
Dibromoethane	ND	ppm	ECD 8140	ND	11/11/98	11/11/98	111
Bromodichloromethane	ND	ppm	ECD 8140	ND	11/11/98	11/11/98	111
1,1,1-Trichloroethane	ND	ppm	ECD 8140	ND	11/11/98	11/11/98	111
Cis-1,2-Dichloropropane	ND	ppm	ECD 8140	ND	11/11/98	11/11/98	111
1,1-Dimethylbenzene	ND	ppm	ECD 8140	ND	11/11/98	11/11/98	111
Toluene	ND	ppm	ECD 8140	ND	11/11/98	11/11/98	111
Trans-1,3-Dichloropropene	ND	ppm	ECD 8140	ND	11/11/98	11/11/98	111
Ethyl Methacrylate	ND	ppm	ECD 8140	ND	11/11/98	11/11/98	111
1,1,2-Trichloroethane	ND	ppm	ECD 8140	ND	11/11/98	11/11/98	111
1-Hexanone	ND	ppm	ECD 8140	ND	11/11/98	11/11/98	111
Dibromoethane	ND	ppm	ECD 8140	ND	11/11/98	11/11/98	111
1,1-Diphenylethane	ND	ppm	ECD 8140	ND	11/11/98	11/11/98	111
1,1-Diphenylethene	ND	ppm	ECD 8140	ND	11/11/98	11/11/98	111
1,1-Diphenylmethane	ND	ppm	ECD 8140	ND	11/11/98	11/11/98	111
1,1-Diphenylpropane	ND	ppm	ECD 8140	ND	11/11/98	11/11/98	111
1,1-Diphenylcyclohexene	ND	ppm	ECD 8140	ND	11/11/98	11/11/98	111
1,1-Diphenylcyclopropane	ND	ppm	ECD 8140	ND	11/11/98	11/11/98	111
1,1-Diphenylbenzene	ND	ppm	ECD 8140	ND	11/11/98	11/11/98	111
1,1-Diphenylchloroethane	ND	ppm	ECD 8140	ND	11/11/98	11/11/98	111
1,1-Diphenylpropene	ND	ppm	ECD 8140	ND	11/11/98	11/11/98	111
1,1-Diphenylcyclohexene	ND	ppm	ECD 8140	ND	11/11/98	11/11/98	111
1,1-Diphenylcyclopentene	ND	ppm	ECD 8140	ND	11/11/98	11/11/98	111
MTBE	ND	ppm	ECD 8140	ND	11/11/98	11/11/98	111
1,1,1,2-Tetrachloroethane	ND	ppm	ECD 8140	ND	11/11/98	11/11/98	111
Cis-1,2-Dichloroethene	ND	ppm	ECD 8140	ND	11/11/98	11/11/98	111
Dichloroethene	ND	ppm	ECD 8140	ND	11/11/98	11/11/98	111
1,1-Dichloroethane	ND	ppm	ECD 8140	ND	11/11/98	11/11/98	111
Acetonitrile	ND	ppm	ECD 8140	ND	11/11/98	11/11/98	111
Dimethyl Ether	ND	ppm	ECD 8140	ND	11/11/98	11/11/98	111

Client #: _____
Address: _____

Page: _____
Date: _____
Log #: _____

11-2000-0000000000

Sample Description:

Project #000-000000 Sample -
Lockdown

Label: 11-20
Date Sampled: 11-20-00
Time Sampled: 14:31
Date Received: 11-20-00
Collected By: Client

Parameter	Results	Units	Method	Reportable		
				Detect Limit	Extr. Date	Analysis Date
Volatile Organic Compounds	continued					

Volatile Organic Compounds continued

11-2000-0000000000
11-2000-0000000000
11-2000-0000000000
11-2000-0000000000
11-2000-0000000000

Respectfully submitted

Marvin Fernandez
Laboratory Director

Client #: CHI-100000
 Address: STS CONSULTANTS
 1411 14th Street Rd.
 P.O. Box 1000
 Arlington, Virginia 22204-1000

Page: Page 1 of 1
 Date: 11/29/96
 Log #: 111811-1

Sample Description:

Project #100000 Water Sample
Unknown

Label: WW-100
 Date Sampled: 11/29/96
 Time Sampled: 14:00
 Date Received: 11/29/96
 Collected By: Client

Parameter	Results	Units	Method	Reportable			
				Detect Limit	Extr. Date	Analysis Date	Analysis
Volatile Organic Compounds							
Dimethylsulfide	STL	ppm	EPA 8240	<0.1	11/29/96	11/29/96	N/A
Ethanol	STL	ppm	EPA 8240	<0.1	11/29/96	11/29/96	N/A
Isobutane	STL	ppm	EPA 8240	<0.1	11/29/96	11/29/96	N/A
Methyl Chloride	STL	ppm	EPA 8240	<0.1	11/29/96	11/29/96	N/A
Propane	STL	ppm	EPA 8240	<0.1	11/29/96	11/29/96	N/A
Toluene	STL	ppm	EPA 8240	<0.1	11/29/96	11/29/96	N/A
Acetone	STL	ppm	EPA 8240	<0.1	11/29/96	11/29/96	N/A
Isopropanol	STL	ppm	EPA 8240	<0.1	11/29/96	11/29/96	N/A
Acetone	STL	ppm	EPA 8240	<0.1	11/29/96	11/29/96	N/A
Isobutene	STL	ppm	EPA 8240	<0.1	11/29/96	11/29/96	N/A
Carbon Disulfide	STL	ppm	EPA 8240	<0.1	11/29/96	11/29/96	N/A
Acrylonitrile	STL	ppm	EPA 8240	<0.1	11/29/96	11/29/96	N/A
Trans-1,3-Dichloropropene	4.0	ppm	EPA 8240	<0.1	11/29/96	11/29/96	N/A
1,1-Dichloroethane	STL	ppm	EPA 8240	<0.1	11/29/96	11/29/96	N/A
Methyl Acetate	STL	ppm	EPA 8240	<0.1	11/29/96	11/29/96	N/A
2-Butanone	STL	ppm	EPA 8240	<0.1	11/29/96	11/29/96	N/A
Chloroform	-	ppm	EPA 8240	<0.1	11/29/96	11/29/96	N/A
1,1,1-Trichloroethane	4.0	ppm	EPA 8240	<0.1	11/29/96	11/29/96	N/A
Carbon Tetrachloride	STL	ppm	EPA 8240	<0.1	11/29/96	11/29/96	N/A
Benzene	-	ppm	EPA 8240	<0.1	11/29/96	11/29/96	N/A
1,1-Dichloroethene	STL	ppm	EPA 8240	<0.1	11/29/96	11/29/96	N/A

Client #: 111-111-1111
Address: 111-111-1111

Page: 1
Date: 11/11/99
Log #: 111-111-1111

Sample Description:

Project #: 111-111-1111-1111
Location:

Label: 111-111-1111
Date Sampled: 11/11/99
Time Sampled: 14:15
Date Received: 11/11/99
Collected By: Client

Parameter	Results	Units	Method	Reportable		
				Detect Limit	Extr. Date	Analysis Date
Volatile Organic Compounds	continued					
1,1,1,2-Tetrafluoroethane	ND	ppm	EPA 8040	100	11/11/99	11/11/99
1,1,1,2-Tetrafluoropropane	ND	ppm	EPA 8040	100	11/11/99	11/11/99
Dis Bromomethane	ND	ppm	EPA 8040	100	11/11/99	11/11/99
1-Ethoxypropane	ND	ppm	EPA 8040	100	11/11/99	11/11/99
1,1,1,2-Tetrafluoroethene	ND	ppm	EPA 8040	100	11/11/99	11/11/99
1,1,1,2-Tetrafluoropropene	ND	ppm	EPA 8040	100	11/11/99	11/11/99
1,1,1,2-Tetrafluoropropane	ND	ppm	EPA 8040	100	11/11/99	11/11/99
Trans-1,3-Dichloropropene	ND	ppm	EPA 8040	100	11/11/99	11/11/99
Ethyl Methacrylate	ND	ppm	EPA 8040	100	11/11/99	11/11/99
1,1,2-Trichloroethane	ND	ppm	EPA 8040	100	11/11/99	11/11/99
2-Hexanone	ND	ppm	EPA 8040	100	11/11/99	11/11/99
Diisobutylketone	ND	ppm	EPA 8040	100	11/11/99	11/11/99
Carboxylic Acids	ND	ppm	EPA 8040	100	11/11/99	11/11/99
Benzyl Alcohol	ND	ppm	EPA 8040	100	11/11/99	11/11/99
1,1,1,2-Tetrachloroethane	ND	ppm	EPA 8040	100	11/11/99	11/11/99
1,1,1,2-Tetrachloropropane	ND	ppm	EPA 8040	100	11/11/99	11/11/99
1,1,1,2-Tetrachloroethene	ND	ppm	EPA 8040	100	11/11/99	11/11/99
MTEE	ND	ppm	EPA 8040	100	11/11/99	11/11/99
1,1,1,2-Tetrafluoropropane	ND	ppm	EPA 8040	100	11/11/99	11/11/99
Dis-1,3-Dichloropropene	ND	ppm	EPA 8040	100	11/11/99	11/11/99
Tetrachloroethane	ND	ppm	EPA 8040	100	11/11/99	11/11/99
1,1,1,2-Tetrachloroethane	ND	ppm	EPA 8040	100	11/11/99	11/11/99
Aromatic Hydrocarbons	ND	ppm	EPA 8040	100	11/11/99	11/11/99
1,1,1,2-Tetrachloroethane	ND	ppm	EPA 8040	100	11/11/99	11/11/99

Client #: 111-111-1111
Address: 111 Main Street

Page: 1
Date: 11/11/98
Log #: 111-111-1111

Sample Description:

Ground surface soil sample
Location: 111 Main Street

Label: 111-111-1111
Date Sampled: 11/11/98
Time Sampled: 14:00
Date Received: 11/11/98
Collected By: Client

Parameter	Results	Units	Method	Reportable		
				Detect Limit	Extr. Date	Analysis Date

Volatile Organic Compounds continued'

EDTA = Ethylenediamine tetraacetic acid
* Denotes detection limit or estimated detection limit
† Denotes detection limit or estimated detection limit
‡ Denotes detection limit or estimated detection limit
§ Denotes detection limit or estimated detection limit

Signature:
Marino Fernandez
Laboratory Director

Client #: 101-0001
Address: STS CONSULTANTS

1415 Ladd Avenue
Deerfield, IL 60015
Attn: Shirley Bonakewitz

Page: Page 1 of 3
Date: 11/27/95
Log #: 101-01-4

Sample Description:

Household products
Unknown

Label: Unknown
Date Sampled: 11/27/95
Time Sampled: 10:00 AM
Date Received: 11/27/95
Collected By: Client

Parameter	Results	Units	Method	Reportable			
				Detect Limit	Extr. Date	Analysis Date	Analysis
Volatile Organic Compounds							
Bis(2-methylpropyl)benzene	STL	ppm	ECDI-ECDI	1.0	11/27	11/27	N.D.
Ethanol	STL	ppm	ECDI-ECDI	1000	11/27	11/27	N.D.
Chloromethane	STL	ppm	ECDI-ECDI	1.0	11/27	11/27	N.D.
Vinyl Chloride	STL	ppm	ECDI-ECDI	1.0	11/27	11/27	N.D.
Propane	STL	ppm	ECDI-ECDI	1.0	11/27	11/27	N.D.
Isobutane	STL	ppm	ECDI-ECDI	1.0	11/27	11/27	N.D.
Trimethylbenzene	STL	ppm	ECDI-ECDI	1.0	11/27	11/27	N.D.
Acetone	STL	ppm	ECDI-ECDI	1.0	11/27	11/27	N.D.
1,1-Dichloroethane	STL	ppm	ECDI-ECDI	1.0	11/27	11/27	N.D.
Acetone	STL	ppm	ECDI-ECDI	1.0	11/27	11/27	N.D.
Isobutene	STL	ppm	ECDI-ECDI	1.0	11/27	11/27	N.D.
Baron Disulfide	STL	ppm	ECDI-ECDI	1.0	11/27	11/27	N.D.
Methylene Chloride	STL	ppm	ECDI-ECDI	1.0	11/27	11/27	N.D.
Acrylonitrile	STL	ppm	ECDI-ECDI	1.0	11/27	11/27	N.D.
Trans-1,2-dimethylcyclopropane	STL	ppm	ECDI-ECDI	1.0	11/27	11/27	N.D.
1,1-Dichloroethane	STL	ppm	ECDI-ECDI	1.0	11/27	11/27	N.D.
Dimethyl Ether	STL	ppm	ECDI-ECDI	1.0	11/27	11/27	N.D.
1-Bromo-1-	STL	ppm	ECDI-ECDI	1.0	11/27	11/27	N.D.
Chloroform	STL	ppm	ECDI-ECDI	1.0	11/27	11/27	N.D.
1,1,1-Trichloroethane	STL	ppm	ECDI-ECDI	1.0	11/27	11/27	N.D.
Dimethyl Tetrahydrophosphine	STL	ppm	ECDI-ECDI	1.0	11/27	11/27	N.D.
Benzene	STL	ppm	ECDI-ECDI	1.0	11/27	11/27	N.D.
1,1-Dichloroethane	STL	ppm	ECDI-ECDI	1.0	11/27	11/27	N.D.

Client #: 111-111-1111
Address: 111-111-1111

Page: 1
Date: 11/11/98
Log #: 111-111-1111

Sample Description:

111-111-1111-1111 Samples
Collection #:

Label: VW
Date Sampled: 11/11/98
Time Sampled: 13:30
Date Received: 11/11/98
Collected By: Client

Parameter	Results	Units	Method	Reportable			
				Detect Limit	Extr. Date	Analysis Date	Analyst
Volatile Organic Compounds							
1,1-Dichloroethane	ND	ppm	EPA 8040	10	11/11/98	11/11/98	111
1,1-Dichloroethylene	ND	ppm	EPA 8040	10	11/11/98	11/11/98	111
Dibromoethane	ND	ppm	EPA 8040	10	11/11/98	11/11/98	111
Bromoform	ND	ppm	EPA 8040	10	11/11/98	11/11/98	111
1-Chloroethane (Methyl Chloride)	ND	ppm	EPA 8040	10	11/11/98	11/11/98	111
Cis-1,2-Dichloroethene	ND	ppm	EPA 8040	10	11/11/98	11/11/98	111
4-Methyl-1-Pentanone	ND	ppm	EPA 8040	10	11/11/98	11/11/98	111
Toluene	ND	ppm	EPA 8040	10	11/11/98	11/11/98	111
Trans-1,2-Dichloroethylene	ND	ppm	EPA 8040	10	11/11/98	11/11/98	111
Ethyl 1,1-Dichloroethyl Ester	ND	ppm	EPA 8040	10	11/11/98	11/11/98	111
1,1,1-Trichloroethane	ND	ppm	EPA 8040	10	11/11/98	11/11/98	111
1-Hexadecene	ND	ppm	EPA 8040	10	11/11/98	11/11/98	111
Dichloromethane	ND	ppm	EPA 8040	10	11/11/98	11/11/98	111
Chlorobenzene	ND	ppm	EPA 8040	10	11/11/98	11/11/98	111
Ethylbenzene	ND	ppm	EPA 8040	10	11/11/98	11/11/98	111
Total Volatiles	ND	ppm	EPA 8040	10	11/11/98	11/11/98	111
PCP	ND	ppm	EPA 8040	10	11/11/98	11/11/98	111
Bromoform	ND	ppm	EPA 8040	10	11/11/98	11/11/98	111
1,1,1,2-Tetrachloroethane	ND	ppm	EPA 8040	10	11/11/98	11/11/98	111
1,1,1,2-Tetrachloroethene	ND	ppm	EPA 8040	10	11/11/98	11/11/98	111
1,1,1,2-Trichloroethene	ND	ppm	EPA 8040	10	11/11/98	11/11/98	111
Trans-1,2-Dichloro-1,3-butadiene	ND	ppm	EPA 8040	10	11/11/98	11/11/98	111
MTBE	ND	ppm	EPA 8040	10	11/11/98	11/11/98	111
1,1,1,1-Tetrachloroethane	ND	ppm	EPA 8040	10	11/11/98	11/11/98	111
Cis-1,2-Dichloroethene	ND	ppm	EPA 8040	10	11/11/98	11/11/98	111
Tetrachloroethene	ND	ppm	EPA 8040	10	11/11/98	11/11/98	111
1,1-Dibromoethane	ND	ppm	EPA 8040	10	11/11/98	11/11/98	111
Acetonitrile	ND	ppm	EPA 8040	10	11/11/98	11/11/98	111
Dilution Factor	-		EPA 8040	-	11/11/98	11/11/98	111

Client #: 111-111-111
Address:

Page: 1 of 1
Date: 11/11/94
Log #: 111-111-111

Sample Description:

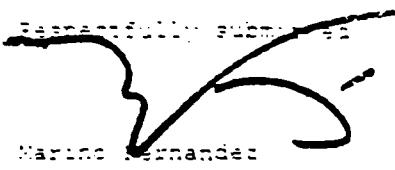
111-111-111-AF water sample
111-111-111

Label: 111-111-111
Date Sampled: 11/11/94
Time Sampled: 11:00 AM
Date Received: 11/11/94
Collected By: Client

Parameter	Results	Units	Method	Reportable		
				Detect Limit	Extr. Date	Analysis Date

Volatile Organic Compounds continued

Analyst: Hernandez
Comments: All samples were analyzed by GC/MS. No analytes were detected.

Successfully submitted
Signature: 
Marino Hernandez
Laboratory Director



Client #: CHI-95-061106
Address: STS CONSULTANTS

Page: Page 1 of 3
Date: 01/02/97
Log #: L14168-1

1415 Lake Cook Rd.
 Deerfield, IL 60015
 Attn: Cynthia Bonczkiewicz

Sample Description:

Lockformer
 26249XB

Label: 202 S-5
Date Sampled: 12/21/96
Time Sampled: 00:00
Date Received: 12/26/96
Collected By: Client

Parameter	Results	Units	Method	Reportable		Extr. Date	Analysis Date	Analyst
				Detect Limit	Limit			
Volatile Organic Compounds								
Dichlorodifluoromethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	01/02	SC
Chloromethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	01/02	SC
Vinyl Chloride	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	01/02	SC
Bromomethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	01/02	SC
Chloroethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	01/02	SC
Trichlorofluoromethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	01/02	SC
Acrolein	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	01/02	SC
1,1-Dichloroethene	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	01/02	SC
Acetone	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	01/02	SC
Iodomethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	01/02	SC
Carbon Disulfide	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	01/02	SC
Methylene Chloride	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	01/02	SC
Acrylonitrile	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	01/02	SC
Trans-1,2-dichloroethene	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	01/02	SC
1,1-Dichloroethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	01/02	SC
Vinyl Acetate	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	01/02	SC
2-Butanone	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	01/02	SC
Chloroform	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	01/02	SC
1,1,1-Trichloroethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	01/02	SC
Carbon Tetrachloride	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	01/02	SC
Benzene	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	01/02	SC
1,2-Dichloroethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	01/02	SC
Trichloroethene	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	01/02	SC

Client #: CHI-95-061106
Address: STS CONSULTANTS

Page: Page 2 of 3
Date: 01/02/97
Log #: L14168-1

1415 Lake Cook Rd.
Deerfield, IL 60015
Attn: Cynthia Bonczkiewicz

Sample Description:

Lockformer
26249XB

Label: 202 S-5
Date Sampled: 12/21/96
Time Sampled: 00:00
Date Received: 12/26/96
Collected By: Client

Parameter	Results	Units	Method	Reportable Detect Limit	Extr. Date	Analysis Date	Analyst
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Volatile Organic Compounds (continued)

1,2-Dichloropropane	BDL	mg/kg	5030 8240	0.0050	01/02	01/02	SC
Dibromomethane	BDL	mg/kg	5030 8240	0.0050	01/02	01/02	SC
Bromodichloromethane	BDL	mg/kg	5030 8240	0.0050	01/02	01/02	SC
2-Chloroethylvinyl Ether	BDL	mg/kg	5030 8240	0.0050	01/02	01/02	SC
Cis-1,3-Dichloropropene	BDL	mg/kg	5030 8240	0.0050	01/02	01/02	SC
4-Methyl-2-pentanone	BDL	mg/kg	5030 8240	0.0050	01/02	01/02	SC
Toluene	BDL	mg/kg	5030 8240	0.0050	01/02	01/02	SC
Trans-1,3-Dichloropropene	BDL	mg/kg	5030 8240	0.0050	01/02	01/02	SC
Ethyl Methacrylate	BDL	mg/kg	5030 8240	0.0050	01/02	01/02	SC
1,1,2-Trichloroethane	BDL	mg/kg	5030 8240	0.0050	01/02	01/02	SC
2-Hexanone	BDL	mg/kg	5030 8240	0.0050	01/02	01/02	SC
Dibromochloromethane	BDL	mg/kg	5030 8240	0.0050	01/02	01/02	SC
Chlorobenzene	BDL	mg/kg	5030 8240	0.0050	01/02	01/02	SC
Ethylbenzene	BDL	mg/kg	5030 8240	0.0050	01/02	01/02	SC
Total Xylenes	BDL	mg/kg	5030 8240	0.0050	01/02	01/02	SC
Styrene	BDL	mg/kg	5030 8240	0.0050	01/02	01/02	SC
Bromoform	BDL	mg/kg	5030 8240	0.0050	01/02	01/02	SC
Cis-1,4-dichloro-2-butene	BDL	mg/kg	5030 8240	0.0050	01/02	01/02	SC
1,1,2,2-Tetrachloroethane	BDL	mg/kg	5030 8240	0.0050	01/02	01/02	SC
1,2,3-Trichloropropane	BDL	mg/kg	5030 8240	0.0050	01/02	01/02	SC
Trans-1,4-dichloro-2-butene	BDL	mg/kg	5030 8240	0.0050	01/02	01/02	SC
1,1,1,2-Tetrachloroethane	BDL	mg/kg	5030 8240	0.0050	01/02	01/02	SC
Cis-1,2-Dichloroethene	BDL	mg/kg	5030 8240	0.0050	01/02	01/02	SC
Tetrachloroethene	BDL	mg/kg	5030 8240	0.0050	01/02	01/02	SC
1,2-Dibromoethane	BDL	mg/kg	5030 8240	0.0050	01/02	01/02	SC
1,2-Dibromo-3-Chloropropane	BDL	mg/kg	5030 8240	0.0050	01/02	01/02	SC
Dilution Factor	1.0		5030 8240		01/02	01/02	SC

Client #: CHI-95-061106
Address: STS CONSULTANTS

1415 Lake Cook Rd.
Deerfield, IL 60015
Attn: Cynthia Bonczkiewicz

Page: Page 3 of 3
Date: 01/02/97
Log #: L14168-1

Sample Description:

Lockformer
26249XB

Label: 202 S-5
Date Sampled: 12/21/96
Time Sampled: 00:00
Date Received: 12/26/96
Collected By: Client

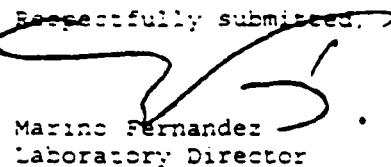
Parameter	Results	Units	Method	Reportable		
				Detect Limit	Extr. Date	Analysis Date

Volatile Organic Compounds (continued)

BDL = Below Detection Limits

* Compounds are Screened Only, with an estimated detection limit.
All analyses were performed using EPA, ASTM, USGS, or Standard Methods
All analyses were performed within EPA holding times unless otherwise noted.
Analyses are reported in dry weight unless otherwise indicated by units.

QAPM 9003783	HPSA 8861041 46156
SUB HRS# 66121.86109.886144	ACEM 104 40880
SC CERT# 961031	NC CERT# 444
TN CERT# 013965	CT CERT# PH-01010
ELPATW 13811	CA CERT# 1-1088
VA CERT# 013966	AC CERT# AC10103
MA CERT# M-FU443	USACG CERT
ND CERT# R-148	

Respectfully submitted,

Marine Fernandez
Laboratory Director

L14168-1

Client #: CHI-96-061106
Address: STS CONSULTANTS

1415 Lake Cook Rd.
Deerfield, IL 60015
Attn: Cynthia Bonczkiewicz

Page: Page 3 of 3
Date: 01/12/97
Log #: L14169-2

Sample Description:

Lockformer
26249XB

Label: 203 S-3
Date Sampled: 12/21 96
Time Sampled: 00:00
Date Received: 12/26/96
Collected By: Client

Parameter	Results	Units	Method	Reportable		
				Detect Limit	Extr. Date	Analysis Date

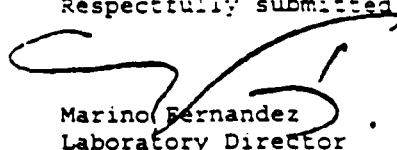
Volatile Organic Compounds (continued)

BDL = Below Detection Limits

* Compounds are Screened Only, with an estimated detection limit.
All analyses were performed using EPA, ASTM, USGS, or Standard Methods.
All analyses were performed within EPA holding times unless otherwise noted.
Analyses are reported in dry weight unless otherwise indicated by units.

CAP# 9003763	HRS# E99140.8-35-
SIB HRS# 961103 961029.999949	ACSEM ID# 41450
SC CERT# 96031	NC CERT# 444
TN CERT# 029985	CT CERT# FH-0100
ELPAT# 13601	CA CERT# 1-1168
VA CERT# 00398	AZ CERT# AC0020
MA CERT# M-FL449	USACE CERT
ND CERT# R-148	

Respectfully submitted,


Marino Fernandez
Laboratory Director

L14169-2

CHAIN OF CUSTODY RECORD

No 29728

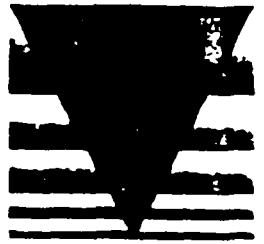
୧୫୮

Contact Person Cynthia Boardman
Phone No. 417-241-2010 Office 417-241-2010
Project No. 262-19XB PO No. _____
Project Name Local Leader

Special Handling Request	<input checked="" type="checkbox"/> Rush	<input type="checkbox"/> Verbal	<input type="checkbox"/> Other _____
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RECORD NUMBER THROUGH

Laboratory YRC
Contact Person Hilary Kinnane
Phone No. 1713-3176
Results Due



Client #: CHI-95-061106
 Address: STS CONSULTANTS

Page: Page 1 of 3
 Date: 01/02/97
 Log #: L14059-1

1415 Lake Cook Rd.
 Deerfield, IL 60015
 Attn: Cynthia Bonczkiewicz

Sample Description:

Soil samples
 Lockformer

Label: B-203, S-6
 Date Sampled: 12/20/96
 Time Sampled: 10:30
 Date Received: 12/20/96
 Collected By: Client

Parameter	Results	Units	Method	Reportable		Extr. Date	Analysis Date	Analysis
				Detect Limit	Limit			
Volatile Organic Compounds								
Dichlorodifluoromethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	01/02	S+
Chloromethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	01/02	S+
Vinyl Chloride	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	01/02	S+
Bromomethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	01/02	S+
Chloroethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	01/02	S+
Trichlorofluoromethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	01/02	S+
Acrolein	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	01/02	S+
1,1-Dichloroethene	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	01/02	S+
Acetone	BDL	mg/kg	5030/8240	0.040	01/02	01/02	01/02	S+
Iodomethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	01/02	S+
Carbon Disulfide	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	01/02	S+
Methylene Chloride	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	01/02	S+
Acrylonitrile	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	01/02	S+
Trans-1,2-dichloroethene	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	01/02	S+
1,1-Dichloroethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	01/02	S+
Vinyl Acetate	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	01/02	S+
2-Butanone	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	01/02	S+
Chloroform	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	01/02	S+
1,1,1-Trichloroethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	01/02	S+
Carbon Tetrachloride	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	01/02	S+
Benzene	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	01/02	S+
1,1-Dichloroethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	01/02	S+
Trichloroethene	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	01/02	S+

Client #: CHI-96-061106
Address: STS CONSULTANTS

1415 Lake Cook Rd.
Deerfield, IL 60015
Attn: Cynthia Bonczkiewicz

Page: Page 1 of 3
Date: 01/02/97
Log #: L14059-1

Sample Description:

Soil samples
Lockformer

Label: B-203, S-6
Date Sampled: 12/20/96
Time Sampled: 10:30
Date Received: 12/20/96
Collected By: Client

Parameter	Results	Units	Method	Reportable Detect Limit	Extr. Date	Analysis Date	Analysis
Volatile Organic Compounds (continued)							
1,2-Dichloropropane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	S-6
Dibromomethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	S-6
Bromodichloromethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	S-6
2-Chloroethylvinyl Ether	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	S-6
Cis-1,3-Dichloropropene	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	S-6
4-Methyl-2-pentanone	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	S-6
Toluene	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	S-6
Trans-1,3-Dichloropropene	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	S-6
Ethyl Methacrylate	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	S-6
1,1,2-Trichloroethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	S-6
2-Hexanone	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	S-6
Dibromochloromethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	S-6
Chlorobenzene	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	S-6
Ethylbenzene	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	S-6
Total Xylenes	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	S-6
Styrene	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	S-6
Bromoform	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	S-6
Cis-1,4-dichloro-2-butene	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	S-6
1,1,2,2-Tetrachloroethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	S-6
1,2,3-Trichloropropane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	S-6
Trans-1,4-dichloro-2-butene	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	S-6
1,1,1,2-Tetrachloroethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	S-6
Cis-1,2-Dichloroethene	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	S-6
Tetrachloroethene	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	S-6
1,2-Dibromoethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	S-6
1,2-Dibromo-3-Chloropropane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	S-6
Dilution Factor	1.0		5030/8240		01/02	01/02	S-6
Percent Solids							
Percent Solid	95	%	SM2540B	0.10	12/23	12/23	YEP

Client #: CHI-96-061106
Address: STS CONSULTANTS

1415 Lake Cook Rd.
Deerfield, IL 60015
Attn: Cynthia Bonczkiewicz

Page: Page 3 of 3
Date: 01/02/97
Log #: L14059-1

Sample Description:

Soil samples
Lockformer

Label: B-203, S-6
Date Sampled: 12/20/96
Time Sampled: 10:30
Date Received: 12/20/96
Collected By: Client

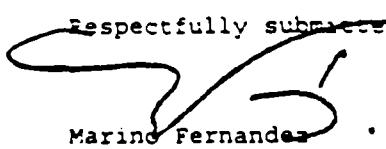
Parameter	Results	Units	Method	Reportable		
				Detect Limit	Extr. Date	Analysis Date

Percent Solids (continued)

BDL = Below Detection Limits

* Compounds are Screened Only, with an estimated detection limit.
All analyses were performed using EPA, ASTM, USGS, or Standard Methods.
All analyses were performed within EPA holding times unless otherwise noted.
Analyses are reported in dry weight unless otherwise indicated by units.

CAP# 9003760	HRS# EEE140.86350
SUB-HRS# 9003760.86350	ACEM ID# 40850
SC CERT# 96031	NC CERT# 444
TN CERT# 02968	CT CERT# PH-C122
ELPAT# 13801	CA CERT# 1-1068
VA CERT# 00395	AZ CERT# AZ0529
MA CERT# M-FL449	USACE CERT
ND CERT# R-149	

Respectfully submitted,

Marino Fernandez
Laboratory Director

L14059-1

Client #: CHI-95-061106
Address: STS CONSULTANTS

Page: Page 1 of 3
Date: 01/02/97
Log #: L14059-2

1415 Lake Cook Rd.
Deerfield, IL 60015
Attn: Cynthia Bonczkiewicz

Sample Description:

Soil sampels
Lockformer

Label: B-202, S-10
Date Sampled: 12/20/96
Time Sampled: 10:30
Date Received: 12/20/96
Collected By: Client

Parameter	Results	Units	Method	Reportable			
				Detect Limit	Extr. Date	Analysis Date	Analysis
Volatile Organic Compounds							
Dichlorodifluoromethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Chloromethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Vinyl Chloride	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Bromomethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Chloroethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Trichlorofluoromethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Acrolein	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
1,1-Dichloroethene	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Acetone	BDL	mg/kg	5030/8240	0.040	01/02	01/02	SC
Iodomethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Carbon Disulfide	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Methylene Chloride	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Acrylonitrile	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Trans-1,2-dichloroethene	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
1,1-Dichloroethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Vinyl Acetate	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
2-Butanone	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Chloroform	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
1,1,1-Trichloroethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Carbon Tetrachloride	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Benzene	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
1,2-Dichloroethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Trichloroethene	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC

Client #: CHI-95-061106
Address: STS CONSULTANTS

Page: Page 2 of 3
Date: 01/02/97
Log #: L14359-2

1415 Lake Cook Rd.
Deerfield, IL 60015
Attn: Cynthia Bonczkiewicz

Sample Description:

Soil samples
Lockformer

Label: B-201, S-10
Date Sampled: 12/20/96
Time Sampled: 10:30
Date Received: 12/20/96
Collected By: Client

Parameter	Results	Units	Method	Reportable Detect Limit	Extr. Date	Analysis Date	Analyses
Volatile Organic Compounds	(continued)						
1,2-Dichloropropane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Dibromomethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Bromodichloromethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
2-Chloroethylvinyl Ether	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Cis-1,3-Dichloropropene	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
4-Methyl-2-pentanone	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Toluene	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Trans-1,3-Dichloropropene	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Ethyl Methacrylate	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
1,1,2-Trichloroethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
2-Hexanone	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Dibromochloromethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Chlorobenzene	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Ethylbenzene	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Total Xylenes	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Styrene	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Bromoform	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Cis-1,4-dichloro-2-butene	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
1,1,2,2-Tetrachloroethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
1,2,3-Trichloropropane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Trans-1,4-dichloro-2-butene	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
1,1,1,2-Tetrachloroethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Cis-1,2-Dichloroethene	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Tetrachloroethene	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
1,2-Dibromoethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
1,2-Dibromo-3-Chloropropane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Dilution Factor	1.0		5030/8240		01/02	01/02	SC
Percent Solids							
Percent Solid	92	%	SM2540B	0.10	12/23	12/23	MPS

Client #: CHI-95-061105
Address: STS CONSULTANTS

1415 Lake Cook Rd.
Deerfield, IL 60015
Attn: Cynthia Bonczkiewicz

Page: Page 3 of 3
Date: 01/02/97
Log #: L14059-2

Sample Description:

Soil samples
Lockformer

Label: B-201, S-1C
Date Sampled: 12/20/96
Time Sampled: 10:30
Date Received: 12/20/96
Collected By: Client

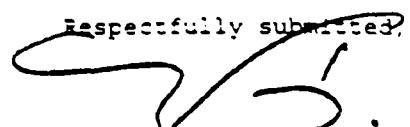
Parameter	Results	Units	Method	Reportable		
				Detect Limit	Extr. Date	Analysis Date

Percent Solids (continued)

BDL = Below Detection Limits

* Compounds are Screened Only, with an estimated detection limit.
All analyses were performed using EPA, ASTM, USGS, or Standard Methods.
All analyses were performed within EPA holding times unless otherwise noted.
Analyses are reported in dry weight unless otherwise indicated by units.

CAP# 9003760	HRS# EEE240.86396
SUB HRS# 66122.86105.EEE146	ADEM ID# 41991
SC CERT# 56131	NC CERT# 444
TN CERT# 01998	CT CERT# PH-1112
ELPAT# 13801	CA CERT# I-1116
VA CERT# 00198	AZ CERT# AZ11529
MA CERT# M-F0449	USACE CERT
ND CERT# R-146	

Respectfully submitted,

Marino Fernandez
Laboratory Director

L14059-2

Client #: CHI-95-061106
Address: STS CONSULTANTS

1415 Lake Cook Rd.
Deerfield, IL 60015
Attn: Cynthia Bonczkiewicz

Page: Page 1 of 3
Date: 01/02/97
Log #: L14168-2

Sample Description:

Lockformer
26249XB

Label: 203 S-3
Date Sampled: 12/21/96
Time Sampled: 00:00
Date Received: 12/26/96
Collected By: Client

Parameter	Results	Units	Method	Reportable Detect Limit	Extr. Date	Analysis Date	Analys:
Volatile Organic Compounds							
Dichlorodifluoromethane	BDL	mg/kg	5030 8240	0.0050	01/02	01/02	SC
Chloromethane	BDL	mg/kg	5030 8240	0.0050	01/02	01/02	SC
Vinyl Chloride	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Bromomethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Chloroethane	BDL	mg/kg	5030 8240	0.0050	01/02	01/02	SC
Trichlorofluoromethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Acrolein	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
1,1-Dichloroethene	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Acetone	BDL	mg/kg	5030 8240	0.040	01/02	01/02	SC
Iodomethane	BDL	mg/kg	5030 8240	0.0050	01/02	01/02	SC
Carbon Disulfide	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Methylene Chloride	BDL	mg/kg	5030 8240	0.0050	01/02	01/02	SC
Acrylonitrile	BDL	mg/kg	5030 8240	0.0050	01/02	01/02	SC
Trans-1,2-dichloroethene	BDL	mg/kg	5030 8240	0.0050	01/02	01/02	SC
1,1-Dichloroethane	BDL	mg/kg	5030 8240	0.0050	01/02	01/02	SC
Vinyl Acetate	BDL	mg/kg	5030 8240	0.0050	01/02	01/02	SC
2-Butanone	BDL	mg/kg	5030 8240	0.0050	01/02	01/02	SC
Chloroform	BDL	mg/kg	5030 8240	0.0050	01/02	01/02	SC
1,1,1-Trichloroethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Carbon Tetrachloride	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Benzene	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
1,2-Dichloroethane	BDL	mg/kg	5030 8240	0.0050	01/02	01/02	SC
Trichloroethene	BDL	mg/kg	5030 8240	0.0050	01/02	01/02	SC

Client #: CHI-96-061106
Address: STS CONSULTANTS

1415 Lake Cook Rd.
Deerfield, IL 60015
Attn: Cynthia Bonczkiewicz

Page: Page 2 of 2
Date: 01/02/97
Log #: L14168-2

Sample Description:

Lockformer
26249XB

Label: 203 S-3
Date Sampled: 12/21/96
Time Sampled: 00:00
Date Received: 12/26/96
Collected By: Client

Parameter	Results	Units	Method	Reportable Detect Limit	Extr. Date	Analysis Date	Analysis
Volatile Organic Compounds (continued)							
1,2-Dichloropropane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Dibromomethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Bromodichloromethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
2-Chloroethylvinyl Ether	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Cis-1,3-Dichloropropene	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
4-Methyl-2-pentanone	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Toluene	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Trans-1,3-Dichloropropene	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Ethyl Methacrylate	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
1,1,2-Trichloroethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
2-Hexanone	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Dibromochloromethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Chlorobenzene	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Ethylbenzene	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Total Xylenes	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Styrene	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Bromoform	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Cis-1,4-dichloro-2-butene	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
1,1,2,2-Tetrachloroethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
1,2,3-Trichloropropene	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Trans-1,4-dichloro-2-butene	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
1,1,1,2-Tetrachloroethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Cis-1,2-Dichloroethene	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Tetrachloroethene	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
1,2-Dibromoethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
1,2-Dibromo-3-Chloropropane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Dilution Factor	1.0		5030/8240		01/02	01/02	

Client #: CHI-95-061106
Address: STS CONSULTANTS

1415 Lake Cook Rd.
Deerfield, IL 60015
Attn: Cynthia Bonczkiewicz

Page: Page 1 of 3
Date: 01/02/97
Log #: L14059-3

Sample Description:

Soil samples
Lockformer

Label: B-201, S-2
Date Sampled: 12/20/96
Time Sampled: 10:30
Date Received: 12/20/96
Collected By: Client

Parameter	Results	Units	Method	Reportable			
				Detect Limit	Extr. Date	Analysis Date	Analy
Volatile Organic Compounds							
Dichlorodifluoromethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Chloromethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Vinyl Chloride	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Bromomethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Chloroethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Trichlorofluoromethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Acrolein	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
1,1-Dichloroethene	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Acetone	BDL	mg/kg	5030/8240	0.040	01/02	01/02	SC
Iodomethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Carbon Disulfide	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Methylene Chloride	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Acrylonitrile	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Trans-1,2-dichloroethene	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
1,1-Dichloroethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Vinyl Acetate	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
2-Butanone	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Chloroform	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
1,1,1-Trichloroethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Carbon Tetrachloride	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Benzene	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
1,2-Dichloroethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Trichloroethene	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC

Client #: CHI-95-0611C6
Address: STS CONSULTANTS

Page: Page 2 of 3
Date: 01/02/97
Log #: L14059-3

1415 Lake Cook Rd.
Deerfield, IL 60015
Attn: Cynthia Bonczkiewicz

Sample Description:

Soil sampels
Lockformer

Label: B-201, S-2
Date Sampled: 12/20/96
Time Sampled: 10:30
Date Received: 12/20/96
Collected By: Client

Parameter	Results	Units	Method	Reportable Detect Limit	Extr. Date	Analysis Date	Analysis
Volatile Organic Compounds (continued)							
1,2-Dichloropropane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Dibromomethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Bromodichlormethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
1-Chloroethylvinyl Ether	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Cis-1,3-Dichloropropene	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
4-Methyl-2-pentanone	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Toluene	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Trans-1,3-Dichloropropene	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Ethyl Methacrylate	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
1,1,2-Trichloroethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
2-Hexanone	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Dibromochloromethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Chlorobenzene	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Ethylbenzene	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Total Xylenes	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Styrene	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Bromoform	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Cis-1,4-dichloro-2-butene	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
1,1,2,2-Tetrachloroethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
1,2,3-Trichloropropane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Trans-1,4-dichloro-2-butene	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
1,1,1,2-Tetrachloroethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Cis-1,2-Dichloroethene	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Tetrachloroethene	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
1,2-Dibromoethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
1,2-Dibromo-3-Chloropropane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Dilution Factor	1.0		5030/8240		01/02	01/02	SC
Percent Solids							
Percent Solid	83	%	SM2540B	0.10	12/23	12/23	MPG

Client #: CHI-95-061106
Address: STS CONSULTANTS

1415 Lake Cook Rd.
Deerfield, IL 60015
Attn: Cynthia Bonczkiewicz

Page: Page 3 of 3
Date: 01/02/97
Log #: L14059-3

Sample Description:

Soil samples
Lockformer

Label: B-201, S-2
Date Sampled: 12/20/96
Time Sampled: 10:30
Date Received: 12/20/96
Collected By: Client

Parameter	Results	Units	Method	Reportable		
				Detect Limit	Extr. Date	Analysis Date

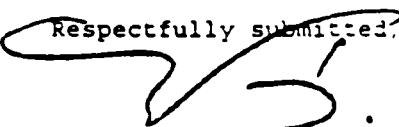
Percent Solids (continued)

BDL = Below Detection Limits

* Compounds are Screened Only, with an estimated detection limit.
All analyses were performed using EPA, ASTM, USGS, or Standard Methods.
All analyses were performed within EPA holding times unless otherwise noted.
Analyses are reported in dry weight unless otherwise indicated by units.

OAPB 9003763	HRS# E86141 E86344
SUB HRS# 96122, 96123, 96124	ADEM ID# 401551
SC CERT# 96031	NC CERT# 444
TN CERT# 02985	GT CERT# PH-0122
ELPAT# 13801	CA CERT# I-1069
VA CERT# 00395	AZ CERT# AZ0529
MA CERT# M-FL449	USACE CERT
ND CERT# R-148	

Respectfully submitted,


Marino Fernandez
Laboratory Director

L14059-3

Client #: 1-1-1
Address: 3100 1st Street

Page: 1
Date: 1-1-87
Log #: 1

1990-1991 - 1991-1992
1991-1992 - 1992-1993
1992-1993 - 1993-1994

Sample Description:

Project #2624 WH water samples
Lockformer

Label: MW-120
Date Sampled: 11/20/96
Time Sampled: 14:30
Date Received: 11/20/96
Collected By: Client

Volatile Organic Compounds (continued)

FIG. 3. Galaxy distribution function

* Compounds are Screened Only with an Estimated EC₅₀ below 100 μM.
All assays were performed with EPA Test Method Standard Methods
All compounds were evaluated under EPA holding times unless otherwise noted.
Assays are available upon request unless otherwise indicated or noted.

Respectfully submitted,

Marino Fernandez
Laboratory Director

Client #: CHI-96-06106
Address: STS CONSULTANTS

Page: Page 1 of 2
Date: 11/29/96
Log #: L12901-1

1415 Lake Cook Rd.
Deerfield, IL 60015
Attn: Cynthia Bonczkiewicz

Sample Description:

Project #26249XX water samples
Lockformer

Label: MW-101
Date Sampled: 11/20/96
Time Sampled: 14:15
Date Received: 11/27/96
Collected By: Client

Parameter	Results	Units	Method	Reportable			
				Detect Limit	Extr. Date	Analysis Date	Analyst
Volatile Organic Compounds							
Dichlorodifluoromethane	BDL	ug/l	5030-8240	1.0	11/27	11/27	MS
Ethanol	BDL	ug/l	5030-8240	1.0	11/27	11/27	MS
Chloromethane	BDL	ug/l	5030-8240	1.0	11/27	11/27	MS
Vinyl Chloride	ND	ug/l	5030-8240	1.0	11/27	11/27	MS
Bromomethane	BDL	ug/l	5030-8240	1.0	11/27	11/27	MS
Chloroethane	BDL	ug/l	5030-8240	1.0	11/27	11/27	MS
Trichloroethane	BDL	ug/l	5030-8240	1.0	11/27	11/27	MS
Acrolein	BDL	ug/l	5030-8240	5.0	11/27	11/27	MS
1,1-Dichloroethene	ND	ug/l	5030-8240	1.0	11/27	11/27	MS
Acetone	BDL	ug/l	5030-8240	50	11/27	11/27	MS
Iodomethane	BDL	ug/l	5030-8240	1.0	11/27	11/27	MS
Carbon Disulfide	BDL	ug/l	5030-8240	50	11/27	11/27	MS
Methylene Chloride	63	ug/l	5030-8240	1.0	11/27	11/27	MS
Acrylonitrile	BDL	ug/l	5030-8240	1.0	11/27	11/27	MS
Trans-1,2-dichloroethene	490	ug/l	5030-8240	1.0	11/27	11/27	MS
1,1-Dichloroethane	300	ug/l	5030-8240	1.0	11/27	11/27	MS
Vinyl Acetate	BDL	ug/l	5030-8240	50	11/27	11/27	MS
2-Butanone	BDL	ug/l	5030-8240	50	11/27	11/27	MS
Chloroform	ND	ug/l	5030-8240	1.0	11/27	11/27	MS
1,1,1-Trichloroethane	4800	ug/l	5030-8240	1.0	11/27	11/27	MS
Carbon Tetrachloride	BDL	ug/l	5030-8240	1.0	11/27	11/27	MS
Benzene	ND	ug/l	5030-8240	1.0	11/27	11/27	MS
1,1-Dichloroethane	BDL	ug/l	5030-8240	1.0	11/27	11/27	MS

Client #: 111-1111
Address: 875 Northgate Drive

Ste. 100 • Naperville, IL 60563
Phone: (708) 942-5115
Fax: (708) 942-5116

Page: Page 1
Date: 11/20/94
Log #: 111-1111

Sample Description:

Project #26145MH water samples
Lockformer

Label: MW-101
Date Sampled: 11/20/94
Time Sampled: 14:15
Date Received: 11/20/94
Collected By: Client

Parameter	Results	Units	Method	Reportable			
				Detect Limit	Extr. Date	Analysis Date	Analys
Volatile Organic Compounds (continued)							
Trichloroethene	ND	ug/l	5030 8140	1.0	11/27	11/27	RS
1,1-Dichloroethane	ND	ug/l	5030 8140	1.0	11/27	11/27	RS
Dibromomethane	ND	ug/l	5030 8140	1.0	11/27	11/27	RS
Bromodichloromethane	ND	ug/l	5030 8140	1.0	11/27	11/27	RS
1-Chloro-1,2-dichloroethane	ND	ug/l	5030 8140	1.0	11/27	11/27	RS
Cis-1,1-Dichloropropene	ND	ug/l	5030 8140	1.0	11/27	11/27	RS
4-Methyl-1-pentanone	ND	ug/l	5030 8140	50	11/27	11/27	RS
Toluene	ND	ug/l	5030 8140	1.0	11/27	11/27	RS
Trans-1,3-Dichloropropene	ND	ug/l	5030 8140	1.0	11/27	11/27	RS
Ethyl Methacrylate	ND	ug/l	5030 8140	1.0	11/27	11/27	RS
1,1,2-Trichloroethane	ND	ug/l	5030 8140	1.0	11/27	11/27	RS
1-Hexanone	ND	ug/l	5030 8140	50	11/27	11/27	RS
Dibromoacromethane	ND	ug/l	5030 8140	1.0	11/27	11/27	RS
Chlorobenzene	ND	ug/l	5030 8140	1.0	11/27	11/27	RS
Ethylbenzene	ND	ug/l	5030 8140	1.0	11/27	11/27	RS
Total Aromatics	ND	ug/l	5030 8140	1.0	11/27	11/27	RS
Styrene	ND	ug/l	5030 8140	1.0	11/27	11/27	RS
Bromoform	ND	ug/l	5030 8140	1.0	11/27	11/27	RS
Cis-1,4-dichloro-2-butene	ND	ug/l	5030 8140	1.0	11/27	11/27	RS
1,1,1-Tetrachloroethane	ND	ug/l	5030 8140	1.0	11/27	11/27	RS
1,1,2-Trichloropropane	ND	ug/l	5030 8140	1.0	11/27	11/27	RS
Trans-1,4-dichloro-2-butene	ND	ug/l	5030 8140	1.0	11/27	11/27	RS
MTBE	ND	ug/l	5030 8140	50	11/27	11/27	RS
1,1,1,2-Tetrachloroethane	ND	ug/l	5030 8140	1.0	11/27	11/27	RS
Cis-1,2-Dichloroethene	ND	ug/l	5030 8140	1.0	11/27	11/27	RS
Tetrachloroethene	ND	ug/l	5030 8140	1.0	11/27	11/27	RS
1,1-Dibromooethane	ND	ug/l	5030 8140	1.0	11/27	11/27	RS
Acetonitrile	ND	ug/l	5030 8140	10	11/27	11/27	RS
Dibromo Ethane	ND	ug/l	5030 8140	1.0	11/27	11/27	RS

Client #: CHI-1001
Address: SMC CONSULTANT

Page: Page 1 of 1
Date: 11/20/96
Log #: 111111

1-1
1-1
1-1

Sample Description:

Project #3624-00 water samples
Lockformer

Label: MW-101
Date Sampled: 11/20/96
Time Sampled: 14:15
Date Received: 11/20/96
Collected By: Client

Parameter	Results	Units	Method	Reportable		
				Detect Limit	Extr. Date	Analysis Date

Volatile Organic Compounds (continued)

BDL = Below Detection Limit

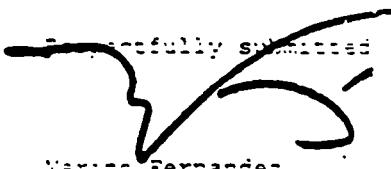
* Compounds are Screened Only with an estimated detection limit.

All analyses were performed at our EPA listed "Standard Method".

All analyses were performed at their BPA holding times unless otherwise noted.

Analyses are expressed in micrograms unless otherwise indicated by units.

Acetone	ND
Acetone, 2-hydroxy-	ND
Acetone, 3-methyl-	ND
Acetone, 4-methyl-	ND
Acetone, 2,4-dimethyl-	ND
Acetone, 2,4,4-trimethyl-	ND
Acetone, 2,4,4,4-tetramethyl-	ND
Acetone, 2,4,4,4,4-penta-	ND

carefully submitted

Marino Fernandez
Laboratory Director

Client #: CHI-95-761106
Address: STS CONSULTANTS

Page: Page 1 of 3
Date: 11/29/96
Log #: L12901-4

1416 Lake Cook Rd.
Deerfield, IL 60015
Attn: Cynthia Schuszkiewicz

Sample Description:

Project #16049AR Water samples
Lookfornter

Label: MW-103
Date Sampled: 11/27/96
Time Sampled: 13:30
Date Received: 11/29/96
Collected By: Client

Parameter	Results	Units	Method	Reportable			
				Detect Limit	Extr. Date	Analysis Date	Analyst
Volatile Organic Compounds							
Dichlorodifluoromethane	EDL	ug/l	5030-8240	1.0	11/27	11/27	MS
Ethanol	EDL	ug/l	5030-8240	1000	11/27	11/27	MS
Chlormethane	EDL	ug/l	5030-8240	1.0	11/27	11/27	MS
Vinyl Chloride	EDL	ug/l	5030-8240	1.0	11/27	11/27	MS
Bromomethane	EDL	ug/l	5030-8240	1.0	11/27	11/27	MS
Chloroethane	EDL	ug/l	5030-8240	1.0	11/27	11/27	MS
Trichlorodifluoromethane	EDL	ug/l	5030-8240	1.0	11/27	11/27	MS
Acrolein	EDL	ug/l	5030-8240	5.0	11/27	11/27	MS
1,1-Dichloroethene	EDL	ug/l	5030-8240	1.0	11/27	11/27	MS
Acetone	EDL	ug/l	5030-8240	50	11/27	11/27	MS
Iodomethane	EDL	ug/l	5030-8240	1.0	11/27	11/27	MS
Carbon Disulfide	EDL	ug/l	5030-8240	50	11/27	11/27	MS
Methylene Chloride	EDL	ug/l	5030-8240	1.0	11/27	11/27	MS
Acrylonitrile	EDL	ug/l	5030-8240	1.0	11/27	11/27	MS
Trans-1,2-dichloroethene	EDL	ug/l	5030-8240	1.0	11/27	11/27	MS
1,1-Dichloroethane	EDL	ug/l	5030-8240	1.0	11/27	11/27	MS
Vinyl Acetate	EDL	ug/l	5030-8240	50	11/27	11/27	MS
1-Butanone	EDL	ug/l	5030-8240	50	11/27	11/27	MS
Chloroform	EDL	ug/l	5030-8240	1.0	11/27	11/27	MS
1,1,1-Trichloroethane	EDL	ug/l	5030-8240	1.0	11/27	11/27	MS
Carbon Tetrachloride	EDL	ug/l	5030-8240	1.0	11/27	11/27	MS
Benzene	EDL	ug/l	5030-8240	1.0	11/27	11/27	MS
1,2-Dichloroethane	EDL	ug/l	5030-8240	1.0	11/27	11/27	MS

Client #: 000-00000
Address: 4000 CONSULTANTS
1405 Lake Cook Rd.
Deerfield IL 60015
Attn: Mr. J. Ponzkiewicz

Page: Page 3 of 4
Date: 11/24/96
Log #: L12v11-4

Sample Description:

Project #260400H water samples
Lockformer

Label: MW-123
Date Sampled: 11/20/96
Time Sampled: 13:30
Date Received: 11/20/96
Collected By: Client

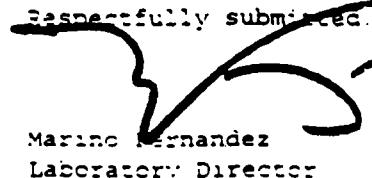
Parameter	Results	Units	Method	Reportable			Analyst
				Detect Limit	Extr. Date	Analysis Date	

Volatile Organic Compounds (continued)

SDI - Ref. v. Odeh et al.

* Compounds are screened below with an estimated detection limit.
All analyses were performed using EPA, ASTM, SGS, or Standard Methods.
All analyses were performed within EPA holding times unless otherwise noted.
Analyses are reported in dry weight unless otherwise indicated by units.

DATE	11/20/96
SID USED	000-00000
ANALYST	J. PONZKIEWICZ
TESTS RUN	10-PPX-PAR
TESTS RUN	10-PPX-CHEM
QA TESTS	10-PPX-10-PPX
QA TESTS	10-PPX-10-PPX
QC TESTS	10-PPX-10-PPX

Respectfully submitted,

Marino Hernandez
Laboratory Director

1116.04

Client #: 700-100-000
 Address: STS CONSULTANTS
 1407 Lakeview Rd.
 Deerfield, IL 60015
 Attn: Dorothy Ponoskiewicz

Page: Page 1 of 1
 Date: 11/20/96
 Log #: 110111-1

Sample Description:

Project #1101000 water samples
Lockformer

Label: MW-123
 Date Sampled: 11/20/96
 Time Sampled: 13:30
 Date Received: 11/20/96
 Collected By: Client

Parameter	Results	Units	Method	Reportable		
				Detect Limit	Extr. Date	Analysis Date
Volatile Organic Compounds (continued)						
Trichloroethene	1.0	ug/l	5030 8240	1.0	11/27	11/27
1,1-Dichloropropane	BDL	ug/l	5030 8240	1.0	11/27	11/27
Dibromomethane	BDL	ug/l	5030 8240	1.0	11/27	11/27
Bromodichloromethane	BDL	ug/l	5030 8240	1.0	11/27	11/27
1-Chloroethylvinyl Ether	BDL	ug/l	5030 8240	10	11/27	11/27
Cis-1,2-Dichloropropene	BDL	ug/l	5030 8240	1.0	11/27	11/27
4-Methyl-1,3-pentanone	BDL	ug/l	5030 8240	50	11/27	11/27
Toluene	BDL	ug/l	5030 8240	1.0	11/27	11/27
Trans-1,3-Dichloropropene	BDL	ug/l	5030 8240	1.0	11/27	11/27
Ethyl Methacrylate	BDL	ug/l	5030 8240	1.0	11/27	11/27
1,1,1-Trichloroethane	BDL	ug/l	5030 8240	1.0	11/27	11/27
2-Hexanone	BDL	ug/l	5030 8240	50	11/27	11/27
Dibromoethane	BDL	ug/l	5030 8240	1.0	11/27	11/27
Chlorobenzene	BDL	ug/l	5030 8240	1.0	11/27	11/27
Ethylbenzene	BDL	ug/l	5030 8240	1.0	11/27	11/27
Total Xylenes	BDL	ug/l	5030 8240	3.0	11/27	11/27
Styrene	BDL	ug/l	5030 8240	1.0	11/27	11/27
Bromoform	BDL	ug/l	5030 8240	1.0	11/27	11/27
Cis-1,4-dichloro-1-butene	BDL	ug/l	5030 8240	1.0	11/27	11/27
1,1,1,2-Tetrachloroethane	BDL	ug/l	5030 8240	1.0	11/27	11/27
1,1,1-Trichloropropane	BDL	ug/l	5030 8240	1.0	11/27	11/27
Trans-1,4-dichloro-1-butene	BDL	ug/l	5030 8240	1.0	11/27	11/27
MTBE	BDL	ug/l	5030 8240	50	11/27	11/27
1,1,1,2-Tetrachloroethane	BDL	ug/l	5030 8240	1.0	11/27	11/27
Cis-1,2-Dichloroethene	1.0	ug/l	5030 8240	1.0	11/27	11/27
Tetrachloroethene	BDL	ug/l	5030 8240	1.0	11/27	11/27
1,1-Dibromomethane	BDL	ug/l	5030 8240	1.0	11/27	11/27
Acetonitrile	BDL	ug/l	5030 8240	10	11/27	11/27
Dilution Factor	1.0		5030 8240		11/27	11/27